Chapter 9

From Gas Lights to Gas Heating & Appliances: The History of Gas Regulation in the District

A. Background

Washington Gas Light Co. (WGL) is the oldest of the three utility companies currently serving the District, and it has also served neighboring jurisdictions in Maryland and Virginia since its inception. In the year that WGL was established by Congress, 1848, the cornerstone of the Washington Monument was laid and the City of Washington had "about 6,000 houses."[1] The streets were wide, muddy, and unlit, posing a danger to both pedestrians and horse drawn traffic and making commerce after dark virtually impossible. Residents had used candles and oil for illumination since the City was first founded in 1790. In 1802, Congress appropriated $100 for providing oil to light the important avenues and streets in the District.[2]

Gas lighting was first introduced to the City of Washington as early as 1804 when a house and the lamp in front of it on Pennsylvania Avenue, owned by Benjamin Henfry, were illuminated with gas. In 1816, there were proposals to form a local gas company, but that project did not materialize. In 1831, an attempt to use portable gas lamps in a new theater failed to burn on opening night. However, in 1841, Robert Grant successfully built an apparatus in the new Treasury Building that lit a room with water-carbureted hydrogen gas manufactured from the bark of a birch tree. "A year later, Congress considered the use of gas manufactured from coal."[3]

Citizens became dissatisfied with oil and candle lamps in their homes and on their streets as they saw neighboring cities, such as Baltimore and Philadelphia, had incorporated gas companies, so they implored Congress to do the same in the District. Meanwhile, James Crutchett, a gas pioneer, lit his house and property with solar gas made from rosin, attracting the attention of Congress and residents.[4] Congress gave Crutchett a contract to light the Capitol and its grounds that included construction of a gas plant and gas holder. Relations with Crutchett became difficult, so Congress then turned to the formation of a gas company led, by Benjamin French, Chief Clerk of the House of Representatives. The new incorporators purchased the patent rights from Crutchett, and in April 1848, began supplying gas to the Capital and grounds, using the plant at the Capitol. On July 8, 1848, President James K. Polk signed a bill incorporating WGL. However, "citizens were unable to afford gas in their homes at the rate of eight dollars a thousand cubic feet [1,000 cf or 1

[1] *Growing With Washington*, The Story of Our First 100 Years by Washington Gas Light Co., 1948, p. 13.
[2] Ibid., p. 19.
[3] Ibid., p. 20.
[4] Ibid., pp. 21-22.

mcf][5], nor were many of them able to buy capital stock in the new company."[6] However, the new company did light the President's house with gas.[7] As sales to several commercial establishments such as hotels and stores grew, the Company reduced the rates from $8.00 per mcf to $6.40 per mcf. Purchasing the gas mains owned by the government enabled WGL to seek customers from the general public in October 1851.[8] About the same time, the citizens of Georgetown organized Georgetown Gas Light Company, which built a plant on 29th street at the canal. "Many citizens installed gas lamps in front of their homes because there was an insufficient number of street lights."[9]

B. The Commission's Gas Rate-Making Record

The history of WGL's average monthly residential gas rates in the District is contained in Table 9.1. When the Commission was created in 1913, the predominant use of gas was still for municipal lighting, while coal was the principal source of residential heat, followed by oil. The Act creating the Commission placed WGL and Georgetown Gas Light Company under the jurisdiction of the Commission. Congress had set a flat rate price of gas at 85 cents per mcf (or 8.5 cents per therm[10]) for all uses by non-governmental customers, including both residential and commercial. While the Commission busied itself with the valuation of WGL, which it began in 1914 by opening F.C. No. 56, World War 1 started and Congress reduced the price to 7.5 cents per therm. During the war, the Commission also initiated a separate valuation of Georgetown Gas Light in 1917 in F.C. No. 55.

1. Changes in Input Prices

On May 2, 1917, the Commission issued Order No. 209 in the WGL valuation case, F.C. No. 56. The Commission determined the fair value of WGL's used and useful property was $9.098 million as of December 31, 1916.[11] The Company appealed the decision. Meanwhile, on December 1, 1917, WGL, on its own behalf and that of Georgetown Gas Light Company, whose stock it owned, petitioned the Commission for an increase in their rates because key input prices, such as coal and oil, had risen as a result the war. In fact, oil prices had doubled. The Company agreed to accept the valuation as a basis for the rate increase without prejudicing its appeal and it promised to refund any difference between the existing rate and the increased rate if the Court's decision meant the increase was not warranted. After opening F.C. No. 13, holding public hearings in December 1917 and February 1918, and verifying the input price increases, on March 15, 1918, the Commission issued Order No. 254 approving an increase in rates to 9.0 cents per therm.

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[5] $8.00 per 1,000 cf is equivalent to 80 cents per therm.
[6] Ibid., p. 28
[7] Ibid., p. 31.
[8] Ibid., p. 33.
[9] Ibid., p . 37.
[10] In 1947, the Commission approved the conversion of gas to natural gas and the unit of measure changed from cubic feet to therms. We will use therms throughout this chapter for ease of exposition.
[11] Order No. 209, p. 42

After claiming it was not earning its allowed 6 percent rate of return approved in Order No. 254, on November 21, 1918, WGL petitioned for another rate increase, which the Commission also approved – to 9.5 cents per therm in Order No. 314, issued on March 15, 1919 in F.C. No. 70. Originally, the rate was to return to 9.0 cents per therm by September 20, 1919, but the Commission later extended the higher rate of 9.5 cents per therm twice, on September 19, 1919 and again on March 25, 1920 in Order Nos. 341 and 369, respectively.

Soon thereafter, on May 29, 1920, the Commission changed its rate design from a flat rate to a declining block rate structure. In the latter case, to promote sales, rates declined as usage increased so larger customers paid a lower price than smaller customers. The new rate structure had 6 usage blocks. For the smallest block (less than 1,000 therms of usage in a month) the rate was 12.5 cents per therm.[12] The lowest rate was 10 cents per therm for usage greater than 10,000 therms per month. The higher rates were based on the recent increase in the price of oil.

The new rates were to expire on August 31, 1920 and then they were to revert to the flat rate of 9.5 cents per therm. The rates charged to the D.C. and U.S. Governments were not impacted because there was a statutory provision that limited the amount they would pay to 7.0 cents per therm.

On August 10, 1920, WGL, on behalf of itself and Georgetown Gas Light Co., asked for a continuance of the existing rates or another increase of 1 cent for each of the six blocks of usage. This would increase the rate in the first block to 13.5 cents per therm for two more months due to higher oil and coal prices. The Commission approved continuation of the existing rates for two more months until October 31, 1920. Thereafter, the rates would return 9.5 cents per therm. [13]

On October 7, 1920, just before the new rates were to expire, WGL filed a rate increase request based on an increase in its allowed rate of return from 6 percent to 8 percent. The Commission verified a "material" increase in the price of coal and "some increase" in the prices of oil and wages, but did not adjust the 6 percent allowed rate of return. Instead, the Commission increased the rates in each of the 6 blocks of usage by 0.7 cents. This meant the new rate for the first block of usage rose to 13.2 cents per therm.[14] As of April 1921, the rates would revert to 9.5 cents per therm.

The rates as of April 1921 did not revert to 9.5 cents per therm. The Commission maintained the rates ranging from 12.5 cents per therm to 10 cents per therm. Instead it changed the size of the first three usage blocks. The 12.5 cents per therm rate was now applicable to usage of less than 500 therms in a month. Usage between 500 and 2,500 therms a month were charged a rate of 12 cents per therm. Usage between 2500 and less

[12] See Order No. 378 issued on May 29, 1920 in F.C. No. 83.
[13] See Order No. 387 issued on August 30, 1920 in F.C. No. 86.
[14] See Order No. 393 issued on October 29, 1920 in F.C. No. 88.

than 5000 therms a month paid 11.5 cents per therm. The changes were due to a reduction in the price of oil. [15] In July of the same year, the rates decreased by a half-cent per therm. [16]

Another reduction of 5 cents for each rate block occurred in 1922 and those rates remained in effect until 1930[17] when the Commission approved separate classes of customers for non-heating and heating service in addition to a commercial and industrial service class. [18] The rates for the non-heating service were set at 10.0 cents per therm for the first 15 therms and 9.0 cents per therm for more than 15 therms of usage in a month. The rate for centralized space heating was not based on a declining rate structure basis. It was set at a minimum use (fixed) charge of $2.00 plus a consumption (variable) charge of 6.0 cents per therm.

In 1932, the non-heating service was called Schedule A and the heating service was called Schedule B.[19] Schedule A rates declined slightly as the rate design changed to 10 cents per therm for the first 10 therms and 9 cents per therm thereafter. Schedule B rates did not change.

In addition, several new customer classes were created. The commercial and industrial service was divided into Schedules C and D based on the level of usage. A new Schedule E – a seasonal off peak rate – applied to customers using gas for water heating, space cooling, or "generation of power by the use of gas." A new Schedule F was for service to master-metered apartments.

2. Sliding Scale Arrangement

The year 1935 is significant because that is when the Commission approved a sliding scale arrangement for setting rates, as requested by WGL and Georgetown Gas Light Co. after the Supreme Court of the District of Columbia allowed a similar arrangement in PEPCO vs. Public Utilities Commission, Equity No. 53475.[20] Specifically, WGL's rate base was set at $21 million as of June 30, 1935 and the allowed rate of return was set at 6.5 percent. Effective the beginning of 1936, the new method yielded, for Schedule A, a reduction to a flat 75 cents for the first 8 therms (or 9.375 cents per therm) 8 cents per therm for the next 32 therms, 7 cents per therm for the next 40 therms, and 6.6 cents per therm for greater than 80 therms. For Schedule B, the reduction was in the minimum charge from $2.00 to 75 cents. Thereafter, rates were to be adjusted as of September 1 of each year.

Schedule B rates remained the same through 1942 when Schedules A & B were merged.[21] However, between 1936 and 1942, Schedule A rates changed only slightly due to modifications in the range of the rate blocks. In September 1942, there was a slight

[15] See Order No. 415 issued on March 17, 1921 in F.C. No. 93.
[16] See Order No. 431 issued July 29, 1931 in F.C. No. 101.
[17] See Order Nos. 463 and 526.
[18] See Order No. 871 issued on September 25, 1930 in F.C. No. 218.
[19] See Order No. 995 issued February 26, 1932 in F.C. No. 234.
[20] See Order No. 1458 issued on December 13, 1935 in F.C. No. 255.
[21] See Order No. 2401 issued on October 13, 1942 in F.C. No. 316.

increase in Schedule A rates for usage greater than 25 therms and customers who had been on Schedule B also experienced a rate increase. Commissioner Hankins dissented, arguing a rate reduction was warranted.

The rate increase was short-lived. In 1943, the Commission lowered the Schedule A rates above the first 8 therms slightly, but it then reversed the change back to the 1942 levels in 1944 and the rates remained at that level through 1946.[22] The temporary reduction was based on a decrease in the allowed rate of return from 6.5 percent to 5.75 percent and the return to the 1942 levels reflected a rise in the rate of return to 6.0 percent.

3. Switch from Manufactured to Natural Gas

On November 27, 1946, WGL asked the Commission for approval to substitute natural gas for the mixed gas that was being manufactured and sold by WGL. Besides the fact natural gas is a cleaner product than manufactured gas, the Company foresaw an increased demand for gas due to the growth in the number of homes, apartments, and businesses using gas together with an increase in the use of gas for space heating. Although most of the growth was outside of D.C., the Company argued the change would eliminate the need to increase rates. WGL also asked the Commission to switch to using therms as the unit of measure rather than cubic feet.[23]

The Commission opened the proceeding in F.C. No. 361. After appropriate notice, public hearings were held in December 1946. The Commission approved the request in Order No. 3155 issued March 6, 1947, using the sliding scale formula. However, the Commission agreed to investigate further the feasibility of the use of the sliding scale formula in light of the switch to natural gas. In that same order, the Commission approved a significant increase in rates. For a residential customer using an average of about 40 therms per month, the new Schedule A rate design, in therms, reflected an average increase of about 40 percent from about 8 cents per therm to 11.43 cents per therm.

4. Rate Base Rate of Return Regulation

In the late 1940s, the Commission began using the revenue requirement (RR) formula – RR=Operating Expenses + Taxes + (Rate Base [Original Cost] – Accrued Depreciation) x Rate of Return (ROR) to establish rates. The previously used sliding scale method protects the financial health of the company by eliminating regulatory lag and it provides benefits to consumers by passing through over-earnings during high growth periods. However, it does not provide an incentive to the utility company to manage expenses efficiently and it does not allow the Commission to investigate whether the expenses are warranted. In contrast, rate of return regulation allow the investigation of the prudency of expenses and because of regulatory lag, the utility company has an incentive to minimize costs. If successful, it can keep over-earnings or avoid losses.

[22] See Order Nos. 2682 issued on November 8, 1943 in F.C. No. 334 and Order No. 2827 issued on August 31, 1944 in F.C. No. 334 and 340.
[23] See Order No. 3355 issued March 6, 1947 in F.C. No. 361.

On July 14, 1949, WGL filed a request for an emergency 7 percent increase in rates for a $900,000 revenue requirement because its actual rate of return was less than 4 percent, which was well below the allowed rate of return of 6 percent. This was the first case where rate base rate of return methodology was used to determine the revenue requirement and rates. After 13 days of hearings, and participation by the People's Counsel, the Federation of Citizens Associations, the D.C. Industrial Union Council, Congress of Industrial Organizations (CIO), the Fort Davis Citizens Association, and the Restaurant Beverage Association, on November 9, 1949, the Commission approved an increase in rates of $749,520 and an allowed rate of return of 6.14 percent. The Commission also combined the commercial and industrial and master-metered apartment rate schedules into Schedule A on the grounds there was very little difference in services to them. The Commission reduced the number of rate schedules from 4 to 2 by retaining Schedule E for the seasonal off peak rate. [24]

On November 28, 1951, WGL requested another rate increase – this time for a $2.345 million increase in revenue due to a 40 percent increase in the wholesale cost of natural gas per the Natural Gas Act that became effective on September 1, 1951. Increases in wage rates and federal income tax rates were also cited by the Company as justification for the rate increase.

The Commission rendered its decision on WGL's request on March 27, 1952 in Order No. 3876 in F.C. No. 414. The Commission approved a $1.723 million revenue increase and a 6.25 percent rate of return.[25] Assuming residential consumption of about 52 therms per month, the average Schedule A rate increased from 12.7 cents per therm to 13.1 cents per therm.

The Commission approved another rate increase in F.C. No. 422 in Order Nos. 3989 and 3992. WGL had filed a request to increase revenues by $850,000 on November 21, 1952, arguing that increases in the wholesale cost of gas per the Federal Power Commission tariffs and other costs meant the Company would not be able to earn its allowed rate of return. The Company also requested an increase in the rate of return to 6.25 percent. The federal Government Services Administration (GSA) and the Federation of Citizen Associations intervened and WGL, GSA, and Commission Staff testified. Instead, in Order Nos. 3989 and 3992, the Commission approved a $754,000 revenue increase and the Company's proposed 6.25 percent rate of return. Schedule A rates increased approximately half a cent to 13.66 cents per therm.

The next major change impacting WGL's rate schedules (but not rate design) occurred in 1954 when the Commission approved a Purchased Gas Adjustment (PGA). On May 26, 1954, WGL filed an application "requesting approval of a plan for making credit adjustments to customers' bills representing reimbursement of portions of retail charges collected by the Company for gas sold."[26] The Commission approved the request in Order No. 4088 on June 30, 1954 in F.C. No. 436 as "an inexpensive and simplified method of

[24] See Order No. 3600 issued November 9, 1949 in F.C. No. 389.
[25] See Order Nos. 3876 issued March 27, 1952 and 3879 issued April 8, 1952, both in F.C. No. 414.
[26] Order No. 4088 issued June 30, 1954 in F.C. No. 436.

adjusting charges to retail customers for gas service in accordance with decreases or increases in the wholesale price of natural gas purchased by the Company."[27]

On December 2, 1957, WGL filed for another rate increase, this time for $4.3 million and a 7 percent rate of return. In F.C. No. 456, on July 22, 1958, the Commission issued Order No. 4468, approving $2.654 million and a 6.45 percent rate of return. Average residential rates increased by about 2.5 cents per therm per the rate schedules approved in Order No. 4473 on July 31, 1958. With the PGA added, the average residential rate per therm was about 14 cents. A year later, in the same formal case, the Commission approved a new lower air-conditioning rate for very large users (greater than 100,000 therms per month) to promote summer gas sales.

With the PGA in effect, the company was allowed to recover costs associated with the volatility in wholesale gas rates without delay and thus there was no further change in WGL's Schedule A rates until 1975.[28] Another factor may have been, contrary to rapid growth in the suburbs, declining population in the District, which might be attributed to "White flight" after the desegregation of public schools in 1954. This decline caused the number of WGL's D.C. residential customers to fall virtually every year through 1978. In addition, residential gas sales per customer in the District grew relatively slowly from about 60 therms per customer in 1956 to 80 therms in 1975. This increase could be attributed to residential customers shifting from oil to gas for heating.

Meanwhile, what is noteworthy during the 1960s was the Commission's approval of an Interruptible rate (Schedule I) for large volume customers in F.C. No. 480[29] and a tariff covering an agreement between WGL and the Watergate complex to supply steam and chilled water services in F.C. No. 503 (Schedule W).[30]

5. Natural Gas Shortages

The decade of the 1970s was a tumultuous time for the natural gas industry, including WGL. Nationally and regionally, the demand for natural gas was growing, particularly for space heating and use of multiple natural gas appliances, including air-conditioning. Environmental concerns following the Ohio River oil slick in June 1969 sparked citizen and government activism against pollution and thus favored the use of natural gas which was deemed to be a cleaner burning source of energy than electricity generation. On the other hand, supply was not able to keep up with the demand, leading to gas shortages and curtailments. In WGL's case, in 1970, its two suppliers, Columbia Gas Transmission Co. and Transcontinental Gas Pipeline Co. (Transco) "asked Washington Gas to limit sales of gas to new retail customers to 300,000 cubic feet of gas per day."[31] This curtailment affected only a few primarily large customers, most probably

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[27] Ibid., pp. 1-2.

[28] On November 16, 1972, the Commission did approve a 1.0526 percent surcharge as an increase in the gross receipts tax on public utilities per the D.C. Teachers Salary Act Amendments of 1972, P.L. 92-518.

[29] Order No. 4795 issued April 4, 1962

[30] Order No. 4902 issued March 18, 1965

[31] *Growing with Washington, Part II, A History of Washington Gas, 1948-2012,* p. 43.

outside of the District. However, by 1971, WGL could not accommodate "the normal growth of the business."[32] WGL suspended all new interruptible rate customers. The shortage worsened over the course of the year. In response, WGL sought and received a moratorium on acquisition of new customers. That moratorium lasted 6 years.

In this context, on January 11, 1974, WGL filed with the Commission an "Emergency Application for Temporary Rates." The Commission opened F.C. No. 610 wherein it denied the request for emergency relief, but left the door open for a new filing.[33] On March 29, 1974, WGL filed an application for a permanent increase of $9.0 million and an allowed rate of return of 9.0 percent. While that proceeding was underway, on May 20, 1974, WGL filed an application for a temporary increase in rates by adding a temporary uniform surcharge of 19.5 percent to base rates on all bills. The Company asked for interim action because of the length of time it will take for the Commission to render its decision on a permanent increase. In Order No. 5655, issued on July 11, 1974, the Commission approved a temporary surcharge on base rates, but for 14 percent rather than the 19.5 percent request. As a condition of approval, the Commission also required the company to make refunds, with interest at 8 percent per year, of any amount in excess of what is ultimately approved for a permanent rate.

The Commission rendered its decision on the permanent rate increase in Order No. 5685, issued on January 23, 1975. The Commission approved an additional revenue requirement of $6.794 million and an allowed rate of return of 8.75 percent. The Commission found that such rates should be designed to effect a uniform 15.64 percent increase in all rate blocks except the first block of Schedule A, including air-conditioning, which the Commission allowed to rise from $2.00 for the first 5 therms to $2.50 for the first 5 therms. After receiving the Company's proposed tariffs and several exceptions, on January 31, 1975, in Order No. 5686, the Commission approved new rates. Schedule A residential rates rose nearly 10 cents a therm. Those rates were adjusted downward slightly in Order No. 5708 issued on April 7, 1975.

In July 1976, the Commission approved a surcharge of 1.0638 percent on all rate schedules except Schedule W due to an increase in the D.C, gross receipts tax from 5 percent to 6 percent. The surcharge on Schedule W was increased to 2.1277 percent.[34]

The Commission also sought to ease the upward pressure on rates by opening an investigation of WGL's PGA in F.C. No. 638 on May 5, 1975. While the PGA was not included in base rates, it was added to base rates on monthly bills. The Commission engaged an accounting consultant, Ernst & Ernst, which found WGL's practices for calculating the PGA were in compliance with the Commission's intent and the overall implementation was sound. However, some modifications were recommended. After the Commission held hearings, the parties in the case reached a settlement agreement, which the Commission approved in Order No. 5936 on October 27, 1977. The settlement agreement called for the explicit listing of the PGA cost components and notice and review

[32] Ibid.
[33] Order No. 5627 issued February 14, 1974
[34] Order No. 5808 issued July 9, 1976 in F.C. No. 655.

of any changes; the introduction of an Actual Cost Adjustment (ACA) that reconciles over and under collections compared to actual costs because of a time lag between when the costs are incurred and when the PGA is computed; a simplified refund procedure, and an increase in the interest WGL must pay on supplier refunds from 5 percent to 6 percent. These changes all favored ratepayers as customers.

Meanwhile, as the moratorium and national promotion of energy conservation took its toll on WGL's sales, the Company responded by changing its rate design structure. Until the mid-1970s, rates had been designed to promote usage through declining block rate structures. In the new environment, this approach no longer served the Company's needs. Hence, WGL revised its proposed rate design in its next rate case submission in 1975. Specifically, on September 30, 1975, WGL filed a request to increase rates by $7.4965 million and a 9.5 percent rate of return. The Commission granted several entities right to intervene. Those entities included the Office of the People's Counsel (OPC), GSA, the Apartment and Office Building Association (AOBA) and the Washington Public Interest Organization. In this rate case, the Company proposed to switch from a declining block rate structure to a two-part rate structure, comprised of a separate flat basic monthly charge for each customer class (called system charge) plus a uniform commodity charge applied to each therm of usage. With the uniform commodity charge, there was no incentive to use more gas because the rate did not decline as usage increased. WGL proposed to set the commodity charge at 20 cents per therm to encourage conservation. WGL's proposed monthly system charge was $12 for the 9 months of September through May for residential customers and $25 for the commercial and industrial group. Finally, WGL proposed to abandon the concept of Schedule A and instead set rate schedules for each type of customer (e.g., residential and commercial) and two uses – heating/cooling and other. Given average monthly residential usage in D.C. of about 87 therms in 1976, the average cost for residential heating and cooling customers would be nearly 28 cents per therm.

The Commission approved a departure from the declining block rate structure to a two-part system/ commodity charge format. It said, in its final order, as follows:

> *As traditional designed, declining block rates are inherently promotional. In the past, promotional gas rate structures have been justified on strictly economic grounds. To be sure, when gas was plentiful, the utility's costs of serving a customer could be said to decline with increased volumes… The economic equation, however, has become very complex. Complicating the cost picture are several factors. One is that existing and new supplies of gas are becoming more and more costly… Another factor is that the Company's service is limited by gas supply as well as by pipeline capacity. In these circumstances, traditional allocation techniques must be reevaluated; customers' responsibility for fixed costs must be related more closely to their gas usage. Moreover, the Commission is not required to consider the niceties of cost allocation in a vacuum, but must relate them pragmatically to overriding public policy. For the foreseeable future,*

public policy must stress conservation of a wasting resource, natural gas. Promotional rate structures tend to foster a misallocation of scarce resources. [35]

However, the Commission did alter the actual rates. For the largest residential class, heating and cooling, it reduced WGL's proposed system charge of $12 per month for 9 months to $8.00 a month for 9 the same period and it set the commodity charge at 21 cents per therm rather than 20 cents per therm. Overall, these rates were designed to yield $6.701 million in additional revenues based on a 9.25 percent allowed rate of return.

In an environment of "unabated" inflation and "little opportunity for WGL to offset rising costs with increased sales,"[36] WGL filed for another rate increase in October 1977. The Commission docketed the case in F.C. No. 686. This time, WGL asked for an increase of $10.9 million (in an amended filing in December 1977) and a 9.85 percent rate of return. In its proposed Order No. 6051, issued on February 13, 1979, the Commission approved $7.232 million and kept the allowed rate of return at 9.25 percent. The rate design for the residential heating and cooling class included a reduction in the system charge (whose name was changed to customer charge) [37]

On March 16, 1979, the Commission issued its final Order No. 6060. WGL filed tariffs that showed the system charge for residential heating and cooling customers would be reduced to $5.00 per month for 9 months while the commodity charge would be increased to 32.55 cents per therm. At residential usage of about 90 therms, the average price for the September – May period would be about 38 cents per therm. For the remaining 3 months, the average price would be 32.6 cents.[38]

C. Inflation, Low-Income Discount Program, and Energy Conservation

Gas procurement is an important element in the retail price of gas because gas is not produced locally. Rather, the commodity gas is produced in several southern states such as Louisiana, Texas, and West Virginia and transported to WGL through several interstate pipelines. Since the 1938 Natural Gas Act, the Federal Power Commission (FPC) was given regulatory jurisdiction over companies that engaged in the interstate sale and transport of natural gas. Pipelines purchased natural gas from producers, transported the gas to its customers – Local Distribution Companies (LDCs) such as WGL - and sold the bundled product for a regulated price. The Natural Gas Policy Act of 1978 began the process of deregulating the natural gas market by allowing supply, demand, and the wellhead price of natural gas to be dictated by market forces. This stimulated natural gas production and supply such that the restrictions during the 1970s were lifted. Accustomed to nearly a decade of shortages, the pipeline companies signed long term 'take-or-pay'

[35] Order No. 5833 issued October 29, 1976 in F.C. No. 647, pp. 39-40.
[36] Order No. 6051 issued February 13, 1979 in F.C. No. 686.
[37] The Commission decided that the name customer charge was more descriptive than system charge since it was designed to reimburse the Company for part of the fixed costs, which it incurs to serve each customer. Customer costs are related to fixed facilities such as mains and meters in addition to the costs for money invested in those facilities, operating and maintenance of those facilities, and for meter reading, billing, and similar customer services. See Order No. 6051, page 81 (text and footnote).
[38] These prices exclude the PGA.

contracts, which meant the pipelines had to pay for a fixed amount of gas regardless of whether there was a demand for it.

Between 1980 and 1985, rising natural gas prices caused demand to fall, resulting in oversupply that required the pipelines to incur costs from the 'take-or-pay' contracts that could be passed on to their customers, the LDCs such as WGL, putting upward pressure on retail rates. Moreover, the 1980s were characterized by even higher rates of inflation and interest rates.

Reflecting these conditions, six WGL rate cases were litigated.[39] In a trend similar to prices in general, average monthly residential natural gas heating and cooling rates (including the PGA) rose substantially from about 42 cents per therm to nearly 75 cents a therm by the end of the decade. [40]

The Commission did not sit idly by as retail natural gas rates rose. In F.C. No. 840, a WGL rate case opened in 1985, the Commission designated WGL's gas procurement practices as one of the issues to be addressed in the case to ensure WGL was procuring commodity gas at the lowest possible prices. This was also an opportunity for the Commission to review the impact of Federal Energy Regulatory Commission (FERC) Order 436[41] that allowed gas pipeline companies to transport gas without FERC approval if they provided the gas on a non-discriminatory basis. This would make it easier for local distribution companies such as WGL to buy gas directly from producers. Only one of WGL's two suppliers, Columbia, participated in the "open access" program, but WGL was seeking a third supplier to overcome a short-term shortage because Columbia was favoring supply for large and industrial customers over residential and small commercial customers. In F.C. No. 840, the Commission concluded that the open transportation opportunity allowed in FERC Order 436 "will be favorable to both WGL and its customers."[42] However, the Commission also realized the situation needed to be monitored on an ongoing basis, hence it required WGL to start filing an annual Gas Procurement Report (GPR).[43]

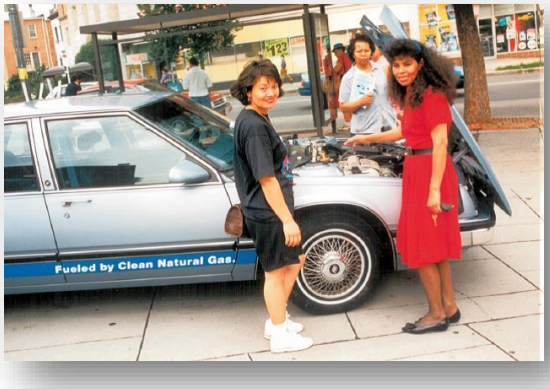
When WGL filed its next rate case in January 1988, docketed as F.C. No. 870, the company did not propose any issues regarding gas acquisition. However, OPC recommended the addition of the same issues as in F.C. No. 840. There was continued concern about the impact of the pipelines long-term take or pay contract liabilities that could be passed on to WGL's firm service (not Interruptible) customers that would contribute to higher rates. In Order No. 8976 issued on March 18, 1988, the Commission decided to investigate WGL's gas acquisition strategies in a separate proceeding that was opened on April 7, 1988 as F.C. No. 874 in Order No. 9000. In Order No. 9793, issued on August 27, 1991, the Commission created a Gas Procurement Working Group (GPWG)

[39] F.C. Nos. 722, 763, 768, 787, 840, and 870.
[40] F.C. No. 763 was an exception. In that case, WGL sought a decrease in rates, which the Commission approved in Order No. 7289 issued on April 3, 1981. The reduction offset an increase in revenues of about $500,000 as a result of GSA becoming an Interruptible Service customer and paying a higher rate.
[41] In 1987, Order 436 was vacated and remanded to FERC. However, the Court upheld the general terms of the order including FERC's authority to establish the transportation program.
[42] Order No 8569 issued on September 5, 1986, p. 112
[43] Ibid, p. 137

composed of staff from WGL, OPC and Commission staff. The GPWG was established to provide an effective review process for monitoring WGL's acquisition strategies and gas procurement practices. In 1994, the Commission changed the filing requirement for the GPR from annually to biennially, and it continued to be filed on this basis on November 1 of every other year through 2013. With the 2014 report, the due date was changed to December 1 each even-numbered year.

In the first five years of the following decade, rates continued to rise, but at a slower pace. For example, by August 1, 1994, the average monthly residential rate for heating and cooling customers was about 83 cents per therm assuming annual average usage of about 84 therms.[44]

1992 Natural Gas Least Cost Planning Conference



WGL natural gas car

The Commission's response to rising rates was two-fold. The first strategy of the Commission in response to rising rates was to promote energy conservation as a way for all consumers to manage their usage and minimize their bills. Although originally a PEPCO rate case opened on March 1, 1985, the Commission pursued the feasibility of energy conservation programs through the adoption of integrated least cost planning for both PEPCO and WGL in F.C. No. 834. In contrast to what traditionally had been system planning that relied solely on supply side options, integrated least cost planning is a tool by which utility companies consider all feasible demand-side (energy conservation) and supply-side programs on an equal basis in order to determine the most cost effective energy ways to serve their customers. The Commission required the use of the Maine version of the All Ratepayers test as the tool to be used to screen all programs. In F.C. No. 834, District of Columbia Natural Gas (DCNG), the WGL subsidiary formed to serve D.C. retail customers, filed the first plan on August 31, 1990. In formulating the plans, the

[44] The average usage is calculated on the basis of test year data in tables WGL submitted in F.C. No. 934 for 1993.

Commission required WGL to collaborate with several Working Groups.[45] The demand-side energy conservation programs that the Company implemented included free audits, rebates for boiler/furnace installation that covered the difference in cost between a standard efficient unit and a high efficiency unit (80 percent AFUE or higher), and gas water heating, dryer, and oven/range incentives. The Commission considered WGL's subsequent least cost plans in F.C. No. 921. WGL filed its second plan on October 1, 1992, its third plan on September 1, 1994, and its fourth plan on September 3, 1996 before the Commission terminated the process and programs as it introduced competition into the natural gas retail market.[46] However, collaborative process worked well as reflected in the submission of settlement agreements with respect to all 3 plans and the programs did prove to be successful through the 1990s in "moving the market" as WGL President Adrian Chapman, also an economist, described at the Commission's 2013 Centennial Anniversary Symposium. For example, high efficiency gas furnaces and other appliances became available at affordable prices to most residents and businesses.

RES working group meeting

The second strategy was the approval discount rates to protect the low-income households least able to pay the higher costs. In the case of WGL, the Commission approved a Residential Essential Service (RES) rate for LIHEAP[47]-eligible gas heating customers in F.C. No. 840 in Order No. 8569 issued on September 5, 1986. RES customers were to pay 74.53 cents per therm for the first 150 therms from the December through March billing period. This was a discount of 4.6 cents per therm on the first 150 therms during the 4 billing months. The discount was shown on RES customers' bills as a credit each month. Over time, the credit rose peaking at $263 over a 6-month billing period of November through April in 2005. In 2013, the credit was $123 over the same 6-month

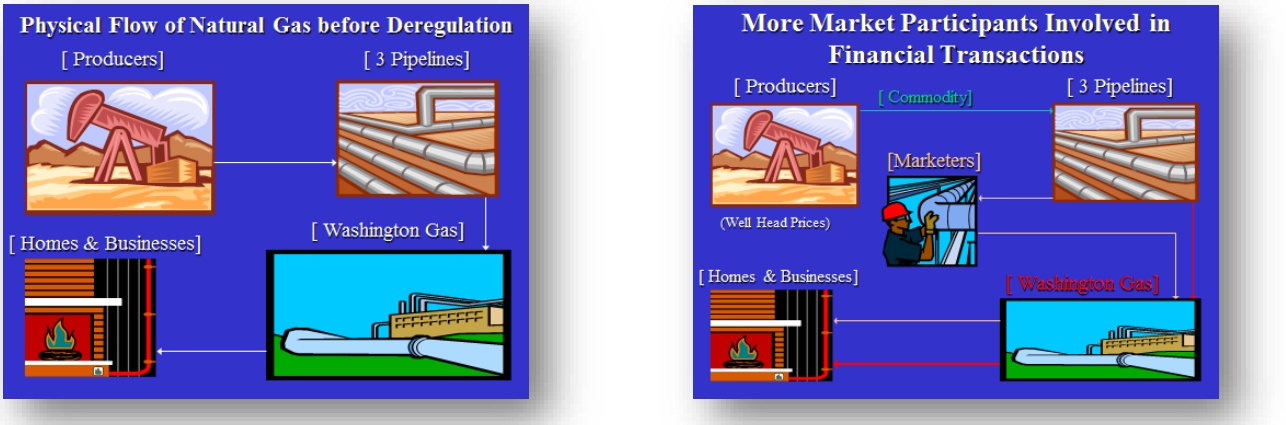
[45] The Load Research Advisory Working Group and the Natural Gas Least Cost Planning Working Group. Members included DCNG/WGL, Commission Staff, OPC, and the D.C. Energy Office. Commission Staff chaired the working groups.

[46] The Commission approved the second least cost plan in Order No. 10252 issued on June 29, 1993, the third least cost plan was approved in Order No. 10584 issued on March 9, 1995, and the fourth least cost plan was approved in Order No. 1268 on December 21 1998.

[47] LIHEAP stands for the Federally-funded Low-Income Home Energy Assistance Program operated by the D.C. Energy Office (DCEO).

period. The average amount of the credit varies from year to year based on changes in the weather and hence usage and the number of participants.

D. Introduction of Competition and the 21st Century



Natural gas market structure before & after competition

The August 1, 1994 rates approved by the Commission in F.C. No. 934 remained in effect for nearly 6 years. However, much was going on during that period. In fact, competition was being introduced into the natural gas industry. The stimulus for competition first came from Congress and FERC, which had regulatory jurisdiction over gas procurement at the interstate level.

> *The Natural Gas Policy Act of 1978 "encouraged increased gas production, began the gradual deregulation of gas prices, and reduced FERC's regulation of natural gas supplies. In 1985, FERC issued Order 436, which enabled local distribution companies (LDCs) [like WGL] to purchase gas directly from producers and pay pipeline companies to transport the gas. However, the pipelines were able to retain a competitive advantage over the producers for gas sales because of their ability to bundle transportation with storage and other services. To alleviate this inequity, in 1992, the FERC issued Order 636, which removed this competitive advantage by requiring pipeline companies to offer only unbundled services and provide equal open access transportation services for all natural gas supplies."*[48]

Retail competition was made possible because marketers were able to purchase gas from the pipelines and sell to retail customers just like the LDCs. Thus, with competition viable at the wholesale level, the next step was to introduce it to retail customers. This was

[48] Regulatory Research Associates, (RRA) – *Regulatory Focus*, February 3, 2000, Special Report – Gas Industry Restructuring Update, p. 1

first done in the District in 1988 for interruptible customers. Ten years later, the Commission approved "customer choice" programs for 3 customer classes through a series of gas tariffs (GTs). Specifically, in January 1998, the Commission approved a customer choice program for retail large commercial customers in GT 96-2 and WGL implemented the program in April 1998. In April 1998, the Commission approved a pilot customer choice program for all residential customers in GT 96-3. WGL implemented that program in January 1999, and the Commission approved it as a full-scale program in February 2001. Finally, in January 1999, the Commission approved a pilot program for small commercial customers in GT 97-3. The Commission approved the pilot program as a full-scale program in January 2002.

The introduction of retail competition required a restructuring of WGL's rate design. The customer charge remained the same but was subsequently extended for 12 months for residential heating and cooling customers, while the commodity charge and PGA were changed to a Distribution Charge and a Purchased Gas Charge (PGC). All customers paid WGL the Customer Charge and the Distribution Charge to cover the Company's costs to deliver gas to them. The PGC was designed to cover the cost of the commodity that flows through WGL's distribution system. However, retail customers didn't have to pay WGL's PGC. Instead, they could pay a commodity charge from another company.

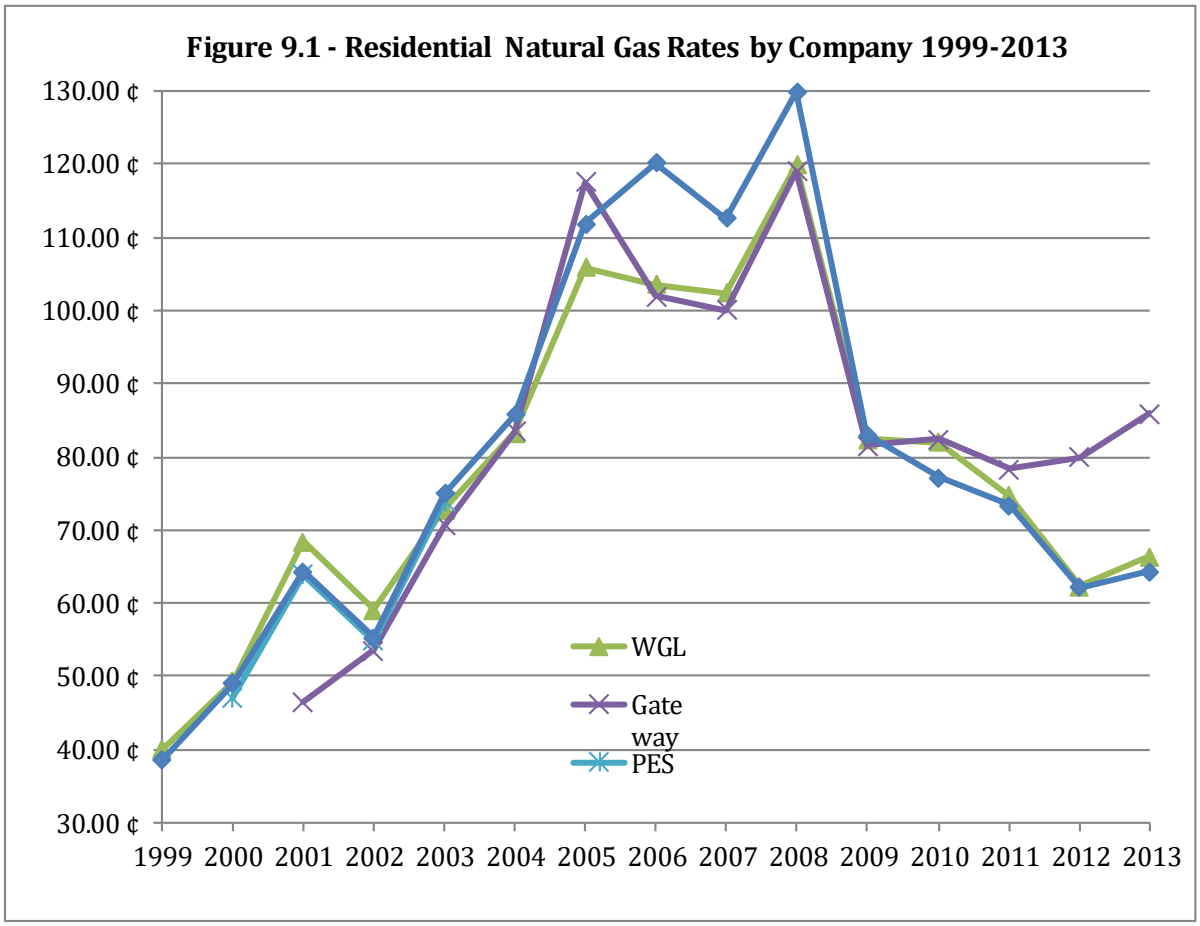


Figure 9.1 - Residential Natural Gas Rates by Company 1999-2013
130.00 ¢
120.00 ¢
110.00 ¢
100.00 ¢
90.00 ¢
80.00 ¢
70.00 ¢
60.00 ¢
50.00 ¢
40.00 ¢
30.00 ¢
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013
WGL
Gate way
PES

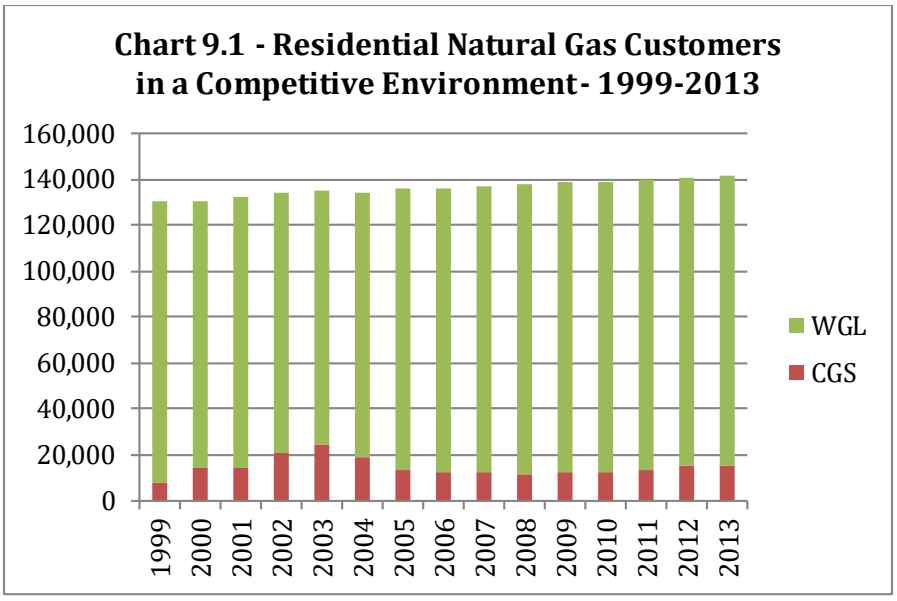


Chart 9.1 - Residential Natural Gas Customers in a Competitive Environment - 1999-2013
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
WGL
CGS

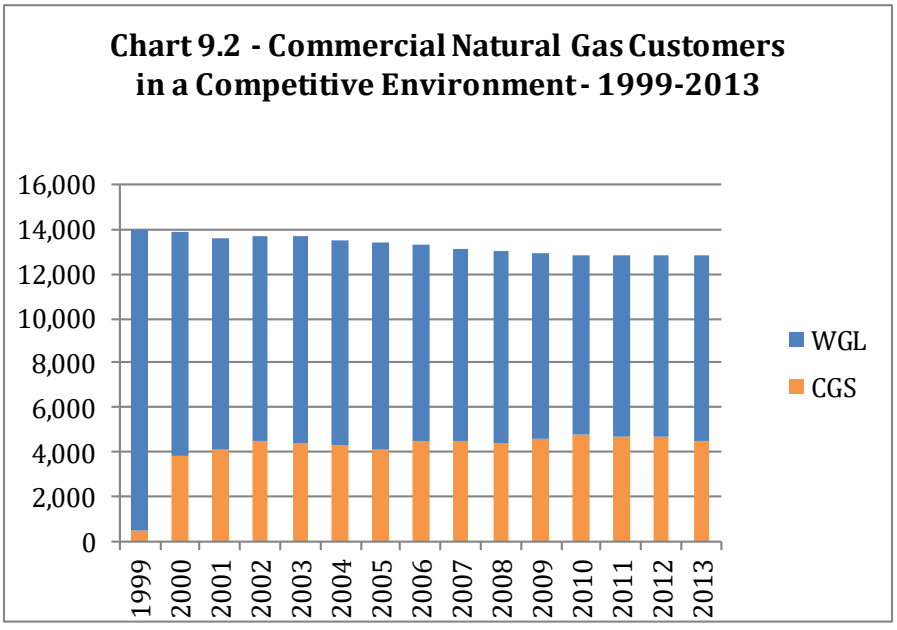


Chart 9.2 - Commercial Natural Gas Customers in a Competitive Environment - 1999-2013
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
WGL
CGS

Using the residential customer choice program as an example, initially, there were only two suppliers, WGL and its unregulated affiliate, Washington Gas Energy Services (WGES). WGES's commodity charge was lower than WGL's PGC. A year later, PEPCO's unregulated subsidiary, PEPCO Energy Services (PES), started serving natural gas customers in the District. By September 2001, a third marketer, Gateway Energy, entered the market. By the end of 2013, there were 8 competitors to WGL – Ambit, Deca, Gateway Energy, Hess, MetroMedia Energy, Northern Virginia Electric Cooperative (NOVEC) Energy Solutions, PES, and WGES for residential service.

Consumer participation in the gas customer choice programs has varied with market prices. That is, there are more participants when the competitors can beat WGL's PGC than when they cannot. The residential program started at the beginning of 1999 with about 6,500 participants or 5 percent of all residential customers. By the end of 2000, the number of participants had grown to 17,600 or about 14 percent of all residential customers. The number of participants peaked at 27,000 or 20 percent of all residential customers in the first five months of 2003. By the end of 2013, there were 15,000 participants or 11 percent of all residential customers.

The least cost planning programs ended with the introduction of competition, but the latter did not cause overall rates to fall. The first gas rate case after competition was implemented began in 2000, when OPC filed a complaint that WGL was over-earning. The Commission agreed to open an investigation of the reasonableness of WGL's rates in F.C. No. 989, given the amount of time that had passed since the last rate case and the many changes that had occurred in the industry over the intervening years. WGL filed an application for a $16.3 million rate increase on June 19, 2001. OPC, AOBA, the Consumer Utility Board (CUB), Moore Energy Resources, Inc., WMATA, and the Watergate Complex Council intervened. The Commission held both formal evidential hearings and community hearings. On October 29, 2002, the Commission rendered its decision in Order No. 12589. After granting in part and denying in part several motions for reconsideration in Order No. 12689 issued on March 28, 2003, the Commission's decision yielded a $5.3874 million reduction in the revenue requirement per the tariff WGL filed on April 1, 2003. One of the key factors contributing to the reduction was the Commission's lowering of the allowed rate of return from 9.72 percent in F.C. No. 934 to 8.83 percent. The reduction of the revenue requirement meant the customer charge was reduced from $8.10 for 9 months to $7.49 for 12 months. According to the tariff, the new Distribution Charge was reduced from 39.89 cents per therm to 36.01 cents per therm. However, the Distribution Charge appearing on customers' bills is lower than the tariffed rates because it includes a Distribution Charge Adjustment (DCA), which is negative. The DCA replaced the Commodity Credit Adjustment (CCA) in the restructured environment. The Commission had approved the CCA in 1983 in F.C. No. 787 as an Interruptible sales credit to firm sales customers. The CCA had been shown as a separate line item on customers' bills as an Interruptible Sales Credit. In addition, the new PGC, which is set by the market and not by the Commission in a rate case, must be added and it averaged about 73 cents

per therm in 2003 when the final rates were approved. At average usage of 75 therms per month for residential heating and cooling customers, WGL's average monthly residential heating and cooling rate was $1.13 per therm.

During the eleven year period, 2003-2013, there were three more WGL rate cases (F.C. Nos. 1016, 1054, and 1093), each leading to rate increases despite the fact the allowed rate of return was reduced in each case. The increase the Commission approved in F.C. No. 1016 in late 2003 was modest to $1.15 per therm. For residential heating and cooling customers, the customer charge increased from $7.49 per month to $7.85 per month. The Distribution Charge increased from 36.01 cents per therm to 38.09 cents per therm.

The next rate increase, in F.C No. 1054, was approved by the Commission in Order No. 14694 on December 28, 2007. That increase was contained in a settlement agreement. WGL had sought a $20 million increase in revenues. The Commission approved a $1.4 million revenue increase. For heating and cooling customers, the customer charge increased by only 10 cents per month to $7.95 and the Distribution Charge barely increased from 38.09 cents per therm to 38.73 cents per therm. However, the PGC was relatively high in 2008 (averaged $1.20 per month), the first rate effective period after the decision, so the average rate for heating and cooling customers rose to $1.63 per therm in that year. This was also based on an average monthly usage of 60 therms.[49]

The last WGL rate case before the end of the Commission's Centennial Anniversary year was F.C. No. 1093. The Commission opened the investigation of WGL's rates on November 2, 2011 "because of the time that had elapsed since WGL's last base rate case, the Company's earnings level, and an apparent decrease in WGL's depreciation expense."[50] By direction of the Commission, WGL filed an application on February 29, 2012; this time seeking to increase rates by $29.0 million based on an 8.91 percent allowed rate of return. AOBA and the D.C. Government intervened, while OPC was a party of right. The Commission held formal evidentiary hearings and community hearings. In Order No. 17132, issued May 15, 2013, the Commission approved an $8.38 million revenue increase and a 7.93 percent allowed rate of return. For heating and cooling customers, this meant the monthly customer charge increased to $9.90 and the Distribution Charge increased to 40.67 cents per therm. Despite the increase, the PGC had fallen considerably by 2013 to a monthly average of 66.7 cents per therm, so the total average monthly rate for residential heating and cooling customers fell to $1.16 assuming average monthly consumption of 60 therms.

[49] Per Attachment A to Order No. 14694, page 4 of 5 in F.C. No. 1054.
[50] Order No. 17132, p. 1.

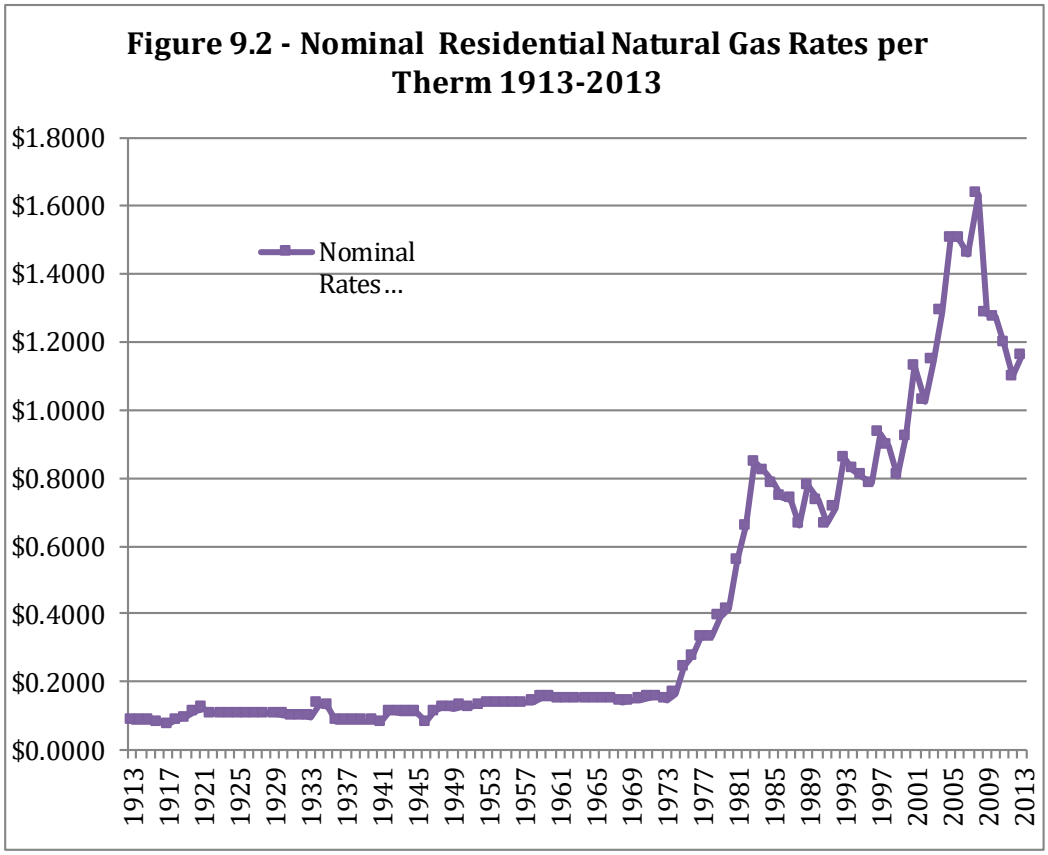


Figure 9.2 - Nominal Residential Natural Gas Rates per Therm 1913-2013
$1.8000
$1.6000
$1.4000
$1.2000
$1.0000
$0.8000
$0.6000
$0.4000
$0.2000
$0.0000
Nominal Rates...
1913
1917
1921
1925
1929
1933
1937
1941
1945
1949
1953
1957
1961
1965
1969
1973
1977
1981
1985
1989
1993
1997
2001
2005
2009
2013

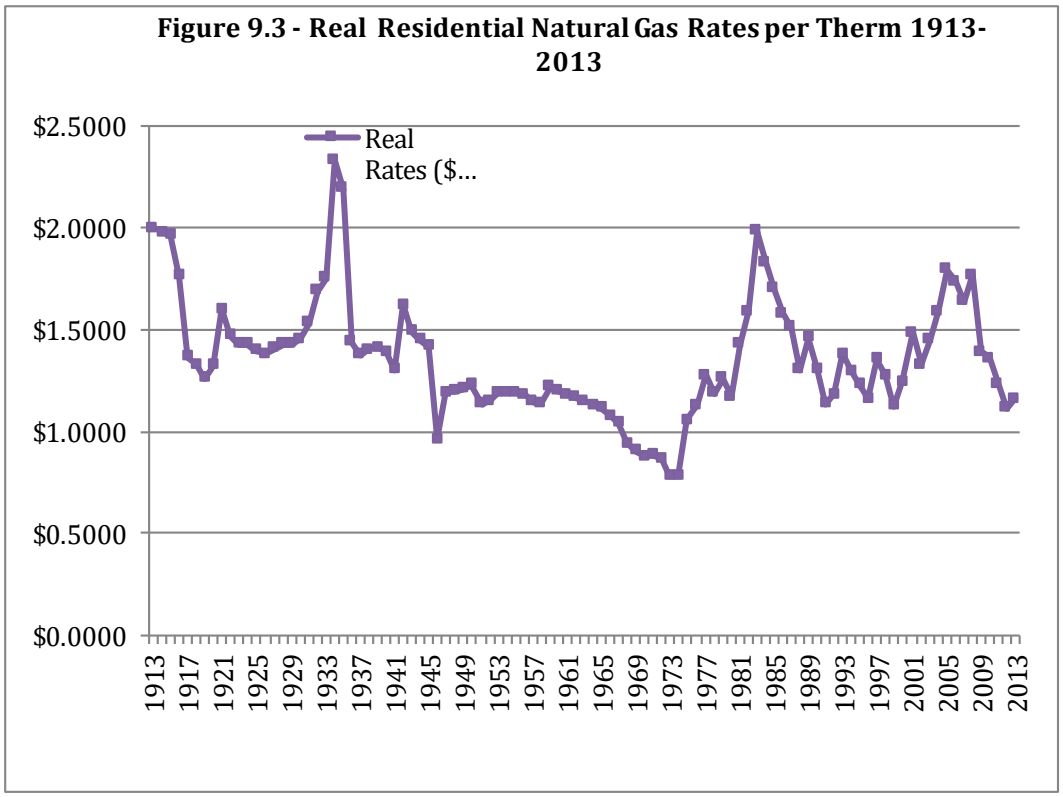


Figure 9.3 - Real Residential Natural Gas Rates per Therm 1913-2013
$2.5000
$2.0000
$1.5000
$1.0000
$0.5000
$0.0000
Real Rates ($...
1913
1917
1921
1925
1929
1933
1937
1941
1945
1949
1953
1957
1961
1965
1969
1973
1977
1981
1985
1989
1993
1997
2001
2005
2009
2013

The trends in nominal and real average monthly residential gas prices are shown in Table 9.1 and Figures 9.2 and 9.3. The rise in nominal monthly average residential gas rates between 1913 and 2013 did not keep pace with inflation, hence real rates declined over the entire period as shown in Figure 9.3. Despite an uptick in prices during the depression in1934-35, the trend in real prices was downward until the early 1970s when gas shortages and then the inflationary period of the 1980s caused real rates to increase substantially. Thereafter, the trend was downward until the end of the1990s. However, the introduction of competition did not have the intended impact of mitigating price increases. Instead, real prices rose, peaking in 2008, to reflect volatile natural gas market prices at the national level. Since then, real prices have subsided so by 2013, they were almost half of what they had been in 1913.

Figure 9.4 - Nominal Residential PSC vs. DOE Gas Rates, 1928-2013

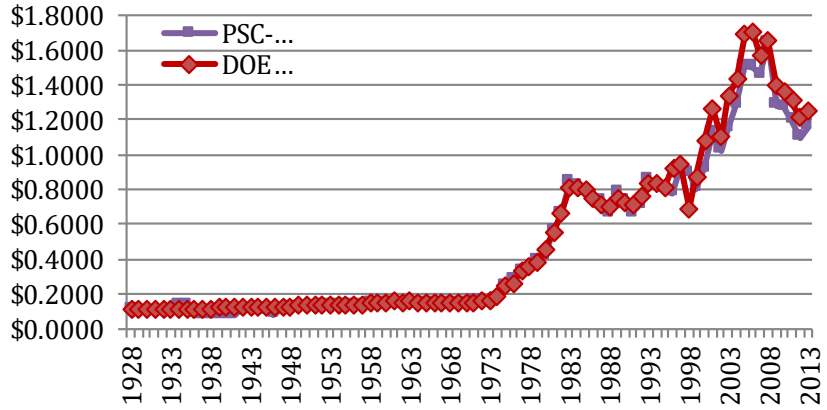


Figure 9.5 - Real Residential PSC vs. DOE Gas Rates - 1928-2013

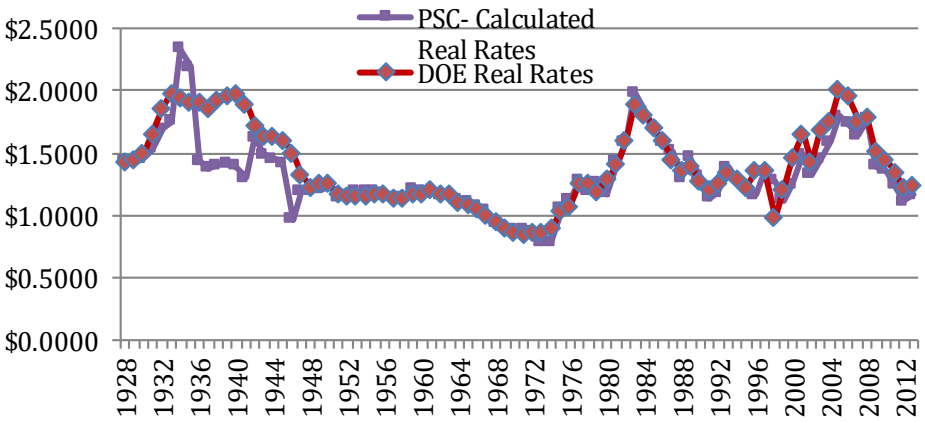


Table 9.2 and Figures 9.4 and 9.5 compare the nominal and real average monthly residential prices calculated by the Commission to the prices compiled by the U.S. Department of Energy (DOE). The DOE data are calculated by dividing residential revenues by the number of cubic feet of gas (converted to therms) sold. Data from 1956-1980 were compiled by the Federal Power Commission, the precursor of the Federal Energy Regulatory Commission and the data after 1980 are from the Energy Information Administration (EIA). Both FERC and EIA are part of DOE. What is most noteworthy is the fact the PSC-calculated prices track rather closely the DOE price data.

E. Ensuring Safe, Reliable & Quality Natural Gas Service

From its inception, the Commission has placed gas safety as a top priority. Inspection of gas facilities and meters was and remains vital to maintaining public safety by preventing hazardous leaks, fires, and other dangerous events. Thus, the Commission established a separate Gas Inspection Bureau,[51] one of only 4 bureaus, that was tasked with testing and sealing all gas meters installed by the gas light companies; inspecting and testing gas meters upon complaint of consumers; and investigating gas quality, purity, and pressure.[52] To that end, on July 23, 1914, the Commission issued Order No. 86, which prescribed rules governing the testing of gas meters for heating value, impurities, and pressure, to be effective on September 1, 1914. Shortly thereafter, on October 28, 1914, the Commission issued Order No. 119 in P.U.C. No. 213/25 that contained regulations for the extension of gas mains and gas service, including the rates to be paid by the owners to the gas companies for the installation of gas service. Upon the receipt of complaints by property owners, the Commission reduced the costs beyond a "free limit" in Order No 356 in F.C No. 79 on December 10, 1919.

The rules and rates were particularly important in facilitating the growth in the extension of WGL's gas distribution system in the District beginning in the second half of the 1920s and continuing through the 1940s.

In 1928, the Commission conducted a gas pressure survey after receiving complaints of excessive pressure in certain areas. The Commission directed WGL to

[51] The Commission maintained a separate gas office until a reorganization in 1980. Thereafter, gas inspections, including the Pipeline Safety Program, were folded under the Office of Engineering.

[52] Prior to the formation of the Commission, these responsibilities were carried out by a gas inspection office under the jurisdiction of the D.C. Commissioners. When the Commission was created, the Director of the office and his 3 assistants and one messenger were transferred to the Commission while still being paid from the D.C. appropriations. The salary of one inspector, which had been paid from the gas companies' deposit for the maintenance of the testing station was paid from the OPC appropriation.

undertake remedial action – P.U.C. No. 2229.[53] This same proceeding was often used for the Commission's approval of distribution gas pressure gauges, gas pressure alarms, and gas governor vaults.

In the early 1930s, the Commission directed the Engineering Bureau to investigate and recommend procedures WGL should follow for the installation of service pipes to provide sufficient volume of gas for heating. This is at the same time that the Commission approved a separate rate for gas heating. WGL also sold heating equipment to bolster its gas sales. By the late 1930s, McCrea Equipment Company complained to the Commission that WGL's sale of heating equipment was discriminatory.[54]

WGL was apparently successful in promoting gas heating sales. By 1940, 11 percent of D.C. households used gas as a heating fuel, placing it in third place behind coal (65.5 percent) and oil (23.0 percent). [55]

During World War II, large quantities of gas were diverted to war industries. In 1945, the Office of War Utilities in the War Production Board sent a telegraph to WGL requiring the curtailment of gas to theaters, bowling alleys, nightclubs, bars, and other places of entertainment. D.C. officials were urged to curtail gas deliveries to public institutions, libraries, museums, and schools. The Commission acted upon the request through the issuance of a press release.[56] By early 1949, the curtailments were lifted.

World War II was not the last time that D.C. and other jurisdictions experienced gas shortages. The energy crisis during the decade of the 1970s and the early 1980s was a challenging time for both WGL and the Commission so there were a number of formal case proceedings held to address the reliability of gas service.

The first one was F.C. No. 571 in 1971. On November 9, 1971, WGL notified the Commission that it faced a critical gas shortage that would cause the Company to limit the sale of gas to new customers. Specifically, Columbia Gas Transmission Co., its principal pipeline supplier, had said that it could provide only half of WGL's total annual requirement for growth and even that supply would be delayed until the late spring of 1972. Meanwhile, Transco, WGL's other pipeline supplier, had been unable to deliver all of the gas it was contracted to provide. WGL asked the Commission to issue an order authorizing it to immediately curtail new sales of gas to residential single-family residences. However, the Commission decided that large commercial, industrial, and apartment building customers could more readily substitute other fuels than residential single-family customers, so it accorded priority for space heating purposes for both residential single-family and individually metered apartments.[57] After the Commission held a hearing on the matter, on December 10, 1971, in Order No. 5497, issued on February 3, 1972, the Commission approved a new priority order – (1) all single family residential users,

[53] Minutes of Commission Meetings, 1928-1932 Volume, p. 417
[54] Minutes of Commission Meetings, 1937-40 Volume, p. 1705, PUC No. 1005/1
[55] Census of Housing, U.S. Bureau of the Census
[56] Minutes of Commission Meetings, 1945-49 Volume, p. 2697
[57] Order No. 5481, issued on November 12, 1971 in F.C. No. 571.

including new construction and those being refurbished and restored; (2) existing individually metered apartments exclusive of space heating and water heating; (3) all apartments for cooking and clothes drying uses; (4) users of pilot gas for oil-fired boilers, and users of gas-fueled emergency generators. A provision was made for waiver applications.

On March 1, 1972, WGL notified the Commission that the shortage had worsened and asked that it be allowed to stop all further commitments for new gas sales effective on that same day in order to assure an adequate supply for all present customers. The Commission held another hearing on March 17, 1972 and approved the request in Order No. 5505 on March 20, 1972.[58]

The shortage continued well after 1972. The Commission received a number of waiver requests. For example, in late 1974, the Greater Southeast Community Hospital asked the Commission to allow it to convert from an interruptible to firm gas customers because it did not have alternative fuel capability and thus could not meet certain essential hospital needs after December 15, 1974. After publishing a Public Notice in the D.C. Register, to which no comments were received, the Commission approved the request.[59] In 1975, the Commission granted similar requests from The Parent and Child Center on 14th Street, N.W. because it's oil furnace was worn out and a gas furnace was considerably less costly, the Children's Hospital for gas needed in the clinical lab and for a standby generator, and the National Lutheran Home for the Aged to offset the impact of spiraling fuel oil costs.[60]

Individual customers also sought and received waivers. In Order No. 5738, issued on October 31, 1975, the Commission granted Mr. Samuel Featherstone's request for gas service for space heating purposes in his single bedroom apartment on Q Street, S.W. On March 4, 1976, the Commission granted Laura Williams a waiver for gas service to her home on New Jersey Avenue, N.W. for cooking, heating, and hot water purposes in Order No. 5772. Finally, the Commission granted Dr. William Rumsey's request for gas service at his home on Morgan Street, N.W. in Order No. 5913 on August 31, 1977. Dr. Rumsey was renovating his property, including installing gas equipment.

The second formal case in which the Commission addressed the needs of customers during the gas shortage was F.C. No. 667, entitled "Emergency Request of Washington Gas Light Company to Curtail Non-Essential Human Needs Customers." On January 28, 1977, WGL asked the Commission to allow it to immediately implement emergency procedures for customers who serve human needs but lack installed alternate fuel capacity. This included all types of residences, hospitals, day care centers, nursing homes, hotels and motels, restaurants, food processors, prisons, police and fire stations, water and sewage

[58] The Commission amended Order No. 5505 in Order No. 5829 on October 20, 1976 by also authorizing WGL to provide service, among other things, to locations that had been terminated or abandoned, and particularly in areas impacted by the 1968 riots to facilitate the restoration and rehabilitation of those properties.

[59] Order No. 5681 issued December 17, 1974 in F.C. No. 571. Modifications were made in Order No. 5737 on October 10, 1975.

[60] Order No. 5699 issued on March 13, 1975 in F.C. No. 571.

treatment plants, colleges and schools, and communications systems and laboratories with critical temperature requirements. The request followed Columbia Gas's notice to WGL directing WGL to discontinue service to all customers except essential human needs customers in order to maintain pipeline deliverability in view of predicted severe weather. The emergency was expected to continue through February 1, 1977. The Commission granted the request in Order No. 5853 on January 28, 1977. The Commission also scheduled a hearing for February 1, 1977 to ensure the action was in the public interest. In Order No. 5855, issued on February 4, 1977, the Commission affirmed its decision.

The restrictions on gas service to new customers were embodied in General Service Provision No. 18 of WGL's tariffs. With commitments of natural gas to the interstate market coupled with the emergence of other sources such as synthetic natural gas, imported liquefied natural gas, the gas shortage that had been in effect for 6 years was easing. As such, in October 1977, the Commission opened F.C. No. 687 for the purpose of addressing WGL's request to modify the provisions by enlarging its obligation to deliver gas service beyond its present load (or the addition of about 3000 customers). Specifically, WGL asked for the authority to serve new residential and commercial customers whose requirements did not exceed 500 therms on an average day in the peak month. In Order No. 5998, issued on May 16, 1978, the Commission approved the request. On October 13, 1978, the Commission issued Order No. 6023 with a notice of intent to amend Order No. 5998 and those amendments were included in a Notice of Final Rulemaking (NOFR) in Order No. 6090 issued on June 1, 1979.

The fourth proceeding[61] on this topic was opened in 1979 in F.C. No. 711. This time, WGL sought to extend the availability of service for both GSP Provision 18 and Schedule No. 3 for interruptible service in a filing dated February 5, 1979. The Commission raised questions in a show cause order on August 2, 1979, and rescinded it the next day while granting the request in a NOFR contained in Order No. 7033. In June 1980, the parties sought Commission approval of a WGL-proposed amendment to the Stipulation agreement that allowed WGL to satisfy an unfulfilled interruptible service demand in D.C. from available gas not needed to meet firm customer commitments. In Order No. 7175, issued on August 1, 1980, the Commission approved the modification, while simultaneously requiring the Company to file an annual gas supply report so the Commission could assess the Company's marketing and sales efforts in the residential or firm gas users' market.[62] In Order No. 7883, issued on September 14, 1983, the Commission terminated the reporting requirement because there was no longer a need for the report in light of the current natural gas supply situation. This was final evidence that the critical gas shortage was over and the willingness of the Commission to modify gas supply rules as changes in availability occurred.

[61] There were two other proceedings (F.C. No. 628 and F.C. No. 689) related to the reliability of gas supply in the 1970s, but no information on them is available. F.C. No. 628, opened on November 15, 1974, was entitled an investigation and proposed rulemaking regarding WGL's gas supply and F.C. No. 689, opened on September 30, 1977, was in response to a WGL application to add a new provision entitled curtailment of gas service to its General Service Provisions.

[62] Order No.7883 issued on September 14, 1983, p. 1.

1. The Natural Gas Pipeline Safety Program

Gas Pipeline Safety Inspections

The Commission works diligently to examine and enforce safety regarding the natural gas pipeline distribution system within the District by participating in the Natural Gas Pipeline Safety Program, a federal/state partnership designed to ensure compliance with federal and state regulations.

In 1968, Congress passed the Natural Gas Pipeline Safety Act, which authorized the U.S. Department of Transportation (USDOT) to regulate pipeline transportation of flammable, toxic, and corrosive gases. The Office of Pipeline and Hazardous Materials Safety Administration (PHMSA) within USDOT is responsible for developing and enforcing "regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6 million mile pipeline transportation system and the 1 million daily shipments of hazardous materials by land, sea, and air."[63] PHMSA is also responsible for overseeing the gas pipeline safety programs in every state and the District of Columbia through annual audits.

Like the states, the program operated by the Commission has gas engineers, certified by PHMSA, who conduct daily on-site inspections of construction activities,

[63] PHMSA website

pipeline facilities, and operational records undertaken by WGL under the Commission's jurisdiction. The Commission's gas pipeline safety engineers also conduct incident investigations to determine probable causes; implement enforcement actions, including civil penalties; monitor the training of pipeline operators; and design and implement public educational gas pipeline safety programs. Whenever violations are found, the Commission has prepared regulations that allow it to issue Notices of Probable Violations (NOPVs) followed by fines and penalties as deemed to be appropriate. PHMSA reimburses the Commission for up to 80 percent of the agency's actual cost for carrying out its pipeline safety program, including the cost of personnel and equipment. The actual amount of each annual grant depends on the availability of funds and the agency's performance rating after each audit. Traditionally, the Commission usually performs well and thus has received the maximum allowable amount each year.

On August 12, 2011, the Commission published a Notice of Proposed Rulemaking (NOPR) in the D.C. Register that contained updated rules governing the Commission's natural gas pipeline safety program in conformance with USDOT's rules.[64] The Commission also sought to establish specific penalties for violations of the rules. After issuing 2 more NOPRs and considering all comments, on December 20, 2012, the Commission finalized the rules. In general, the rules provide the requirements for the safety of intrastate natural gas transmission and distribution facilities and for the enforcement of those requirements through inspections, investigations, issuances of (NOPVs), and the imposition of civil penalties. The rules also required WGL to file three reports for monitoring purposes; namely, a monthly report on pressure gauge measurements, an annual report on meter test results, and a report every two months on damage to WGL's pipeline system.

2. The District's Miss Utility/One-Call Program

The District's Miss Utility (now called One-Call) program dates back to D.C. Law 3-129 after approval by the D.C. Council in December 1980 and signed by the Mayor on January 7, 1981. The purpose of the law is to help reduce damage to underground facilities such as natural gas, electric, water, and telephone lines. All excavators, including homeowners, are required to notify the One-Call center at least 2 days before digging so the owners of the underground facilities can mark the location of their facilities to prevent damage to them. The Commission receives an annual grant (about $45,000) from the USDOT, which is used to fund one Inspector who conducts field inspections of underground facility location markings, compares locate requests and responses to determine the extent and timeliness of responses, tests and verifies the accuracy of the

[64] See F.C. No. 1089.

markings performed by the locators, conducts inspections of excavation sites to ensure the excavations are carried out in accordance with federal and District laws, and verifies the accuracy of the maps and mapping technology used by the locators to perform the markings. The Inspector conducts inspections on a daily basis. In the last few years, the Commission has also provided educational materials on a new 811 abbreviated dialing code that the Inspector distributes to all excavators, District residents, and underground facility locators during his site visits. The Commission also promotes April National Safe Digging Month by issuing a District-wide bulletin/press release and preparing a declaration and resolution that is signed by the Mayor and D.C. Council.

3. Cast Iron Replacement Program

Cast iron replacement inspection

The gas safety record in the District over the 101-year period has been a good one, with very few incidents. The one exception occurred on June 28, 1993, when natural gas leaked from a 12-inch high-pressure cast iron natural gas line at Pennsylvania Avenue and 30th Street, S.E. Fire, followed by an explosion caused by a spark from a stalled van's starter motor resulted in one fatality and several injuries. As a result of the incident and investigations conducted jointly by PHMSA and the Commission with WGL, the Commission directed WGL and Commission staff to develop a Cast Iron Replacement Program (CIRP) to rapidly retire 8-inch and 12-inch high-pressure cast iron pipes because they are susceptible to failures. Although WGL already had a pipe replacement program, the CIRP was implemented as an addition to WGL's existing program. The Commission monitored the 10-year plan that began in 1994 and was completed on time in 2004. During the program WGL has replaced a total of 15.8 miles of cast iron mains. Moreover, in its continued efforts to enhance the reliability and safety of the natural gas distribution system within the District, WGL is also implementing a program to replace small diameter (less than 8 inches) cast iron pipes with plastic pipes. Since 1984, WGL has replaced 178 miles of small diameter cast iron pipes.

4. Investigations of WGL's Gas Distribution System

Also, in 2004, the Commission received two complaints of interruptions in gas service that caused the Commission to open a proceeding, F.C. No. 1027, and ultimately an investigation of WGL's gas distribution system. On January 13, 2004, OPC filed an emergency petition for the Commission to investigate a spate of natural gas service interruptions in the vicinity of the 100 block of 11th Street, S.E. that caused "gas furnaces to cut off, meters to freeze, and houses to be without heat and hot water." In the same month, residents of the Shaw community experienced similar problems. In both cases, the Commission's gas pipeline safety engineers and WGL immediately investigated. Although no immediate danger was discerned, the Commission ordered WGL to conduct a thorough investigation and file a report.[65] WGL filed its report on March 8, 2004 and updates on September 21, 2004 and November 1, 2004. In its report, WGL attributed the cause of the 11th Street problems to low pressure or no pressure created by water from WASA entering WGL's distribution system and blocking the flow of gas. WGL immediately made all repairs and restored service. WGL conducted a leak survey in the Shaw area that identified 23 leaks. Its September 21, 2004 update report identified the status of the steps to eliminate the leaks.

While the Commission was monitoring the situation, on March 28, 2005, a natural gas-related incident occurred in District Heights, Maryland, resulting in an explosion and fire at a private residence. By comparing the couplings at the site of the incident with couplings elsewhere in its system, WGL preliminarily determined that dry gas (unblended liquefied natural gas) injected in its distribution system at its Cove Point, Maryland terminal caused gasket seals on the natural gas pipes to dry out, leading to a leak and ultimately the fire and explosion. Because the Southeast and Northeast quadrants of the District share the same type of mechanical couplings since they are adjacent to District Heights, the Commission directed WGL to conduct a special leak survey in D.C. Fearing that the impact of a similar leak in the District would be devastating, by Order No. 13735, issued on August 11, 2005, the Commission ordered WGL to repair all known grade 2 leaks associated with mechanical couplings within 6 months and develop a plan for repairs for grade 3 leaks, and file monthly reports on coupling related leaks so the Commission could monitor the progress. [66]

[65] Order No. 13064 issued February 6, 2004.

[66] There are three classes of gas leaks. Grade 1 leaks are considered hazardous and must be repaired immediately. Grade 2 leaks are considered to be non-hazardous, but require repair. Grade 3 leaks are not hazardous and are expected to remain non-hazardous.

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Meanwhile, WGL began injecting hexane into its system to prevent shrinkage of rubber seals in the mechanical couplings to reduce the likelihood of gas leaks. On February 19, 2006, the company sought recovery of the cost in a gas tariff – GT 06-1. WGL was recovering the cost of the hexane injections through the PGC, however, delivery service customers do not pay the PGC, hence WGL asked the Commission to approve a balancing charge that would be assessed on all interruptible and delivery service customers. On December 16, 2009, in Order No. 15627, the Commission ultimately approved an OPC/WGL settlement agreement, but not until after FERC rendered its decision on the cause(s) of the incident in Maryland. The Commission-approved settlement agreement addressed not only the hexane cost recovery mechanism, but also the initiation of a 7-year vintage mechanical coupling replacement and encapsulation program, the imposition of a surcharge to be recovered through the PGC for WGL's delivery service customers and a balancing charge for customers of competitive suppliers, the provisions for reviewing the program, leak survey filing requirements, reporting requirements, and consumer education requirements. The Commission also required WGL to file monthly natural gas leak reports for performance monitoring purposes.

5. Natural Gas Quality of Service Standards

At about the same time that the Commission opened the natural gas commodity market to competition, it decided that quality of service standards should be developed to ensure that WGL and natural gas service providers operating in the District meet an adequate level of quality, reliability, and safety. To that end, the Commission opened F.C. No. 977 for the purpose of developing the standards. However, draft rules in the form of a NOPR were not published until May 11, 2007. The NOPR set out the rules, including the rights and responsibilities of consumers, WGL and competitive energy suppliers, regarding service outages and gas incidents, gas leaks, and odor complaints, gas emergencies, reliability standards, low-pressure water infiltration, and underground damage prevention; customer service standards, and billing error notification. After receiving comments, the Commission issued Interim Order No. 14889 on August 15, 2008, which established reporting requirements for all of the components of the rules except Section 3705, which covered the reliability standards. WGL filed an application for reconsideration of Order No. 14889 on September 10, 2008 and its first annual report on October 31, 2008. WGL's principal objections were that the response times regarding gas leaks (50 minutes), odor complaints (one hour), and the percentage of all calls that WGL

must answer within 30 seconds (70 percent) would lead to operational and safety difficulties. In Order No. 15129, issued on November 6, 2008, the Commission granted WGL's application by clarifying the language with respect to the 3 areas of WGL concern.

Meanwhile, Order No. 14889 did not address the rules regarding the service reliability standards. On February 27, 2009, the Commission issued another NOPR that modified the reliability service standards from previous NOPRs and the response time for gas leaks to a range of 60-95 minutes. The Commission finalized the rules on September 17, 2009 in Order No. 15548 and the NOFR was published in the D.C. Register on September 25, 2009. Thereafter, WGL filed requests for waiver, particularly with respect to Section 3702.2 regarding the response time for gas leaks because it continued to fail to meet the standard. Through 2013, the Commission granted the waivers, while affirming the standards in its rules.

6. WGL's Accelerated Pipeline Replacement Program (APRP)

In its November 2, 2011 application to increase rates, docketed as F.C. No. 1093, WGL sought Commission approval to implement the first five years of a 50-year Accelerated Pipe Replacement Program (APRP) at a cost of $119 million. The Company proposed to recover the cost through a surcharge called the Plant Recovery Adjustment (PRA) that would be billed to customers on a monthly basis. As of November 2011, the PRA had been used to recover the costs of replacing mechanical couplings. The APRP would replace 414 miles of main and over 37,000 services, thus doubling the number of miles of mains and tripling the number of services normally replaced in that time.

In Order No. 17132, issued on May 15, 2013, the Commission found fault with WGL's proposed plan, stating that was not an "accelerated" program. To the contrary, under WGL's proposed "accelerated" APRP, WGL would replace only 7 miles of mains per year, which is less than half of the average of 15.67 miles per year of mains that WGL installed in the years 1986-2001.[67] Instead, the Commission required WGL to reassess its risks and priorities, and file a revised plan within 3 months of the date of the order. On August 15, 2013, WGL filed a revised APRP that requested approval of the first 5 years of a 40-year plan, with the first 5 years costing $110 million. By the end of 2013, the Commission was receiving comments on the revised plan.

[67] Order No. 17132, p. 102.