

## **The Gas Works at Moreton-in-Marsh, Gloucestershire.**

**By A S Jackson**

During the second half of the eighteenth century, many experiments with coal gas were made both in the UK and on the continent. In 1792, William Murdock lit his office in Redruth, Cornwall by coal gas and in 1803 he illuminated his firm's premises (Boulton & Watt) in Birmingham..

In 1812 the Chartered Gas Light & Coke Company was formed to provide street lighting in Westminster and Southwark. Gas works spread rapidly across the country, encouraged by the Lighting and Watching Act of 1833 which gave parishes the opportunity to install street lighting if they so wished. Nearby, at Banbury, the gas works started production in 1833 and Chipping Norton's first works started in 1837.

On 14th January 1846, a Moreton solicitor purchased two chains of land being part of a larger parcel of land known as Stockwells, described as being on the eastern side of Moreton where the turnpike left for Chipping Norton. Nowadays the site can be described as being at the foot of the railway bridge next to the cemetery. The land cost £100 and the solicitor was acting as agent for the Moreton-in-Marsh Gas Company which was formed as an unlimited liability company on 10th March 1846. The issued share capital was £1,500 divided into 150 shares of £10 each. There were 25 shareholders, the largest holding being that of Lord Redesdale, the company chairman, who owned 12 shares. There were six directors, three trustees and the solicitor, Edwin Tilsley, became the company secretary.

At the outset, Moreton's works had three retorts which were charged by hand as was the furnace. Retort charging was a skilled, manual operation. The retorts were "D" shaped with the D being tipped over on to its flat side. They were 8 feet long and 3 feet wide, sealed at one end with a close fitting door at the other. The early retorts were made of fire-clay and had a working life of up to 3 years. Later retorts were made of iron. The retorts were housed in a brick arch and the arch and its retorts were known as a "bed". Later, there were two beds which were known as a "bench". The retorts were heated by a coke furnace and as the temperature rose the coal yielded a tarry, gaseous mixture which left the retorts by ascension flues. It passed through water-cooled condensers where the tar was removed, through "scrubbers" where ammonia was removed and finally over a bed of damp, slaked lime to remove the hydrogen sulphide. The gas was now sufficiently pure to be sold and it passed into the gasholder which held 5,000 cubic feet of gas. Each retort held about 3 cwt of coal and the coking process took about 3-4 hours.

Tar was a constant problem during the coking process because it clogged up the flues and an exhaustor motor was eventually installed to "pull" the gases out of the retorts.

The equipment needed for Moreton's gas works and its cost can be estimated as follows:

|   |        |
|---|--------|
| Freehold land   | 100    |
| Retort house, with large ventilator and chimney                                 | 170    |
| Work shop, coal shed and lime store   | 120    |
| House for the manager or lessee   | 90     |
| Oven flues, furnaces and tar well   | 40     |
| Boundary wall   | 70     |
| Water tank for gas holder   | 100    |
| Three retorts   | 100    |
| Gasholder (5,000 cubic feet) and pumps  | 250    |
| Dig out and provide a 5 inch gas main into the town<br>with service connections | 200    |
| Street lamps - 20 @ £5  | 100    |
| Working capital   | 60     |
|   | £1,500 |

Beneficial production began in about May 1848, all underground pipe-work having been undertaken by the Gas Company. At this time, coal was brought in by the horse tramway from Stratford-on-Avon. There were 20 street lamps, which made the lighting committee the largest customer and perhaps 30 domestic customers at the most out of a population of 1,512. The price of gas was 9/6d per thousand cubic feet.

With such a small base load, gas production, perhaps 1 million cubic feet a year, was at the chemistry set level. Compared with larger works it was most inefficient, the cost of coal being a much greater proportion of sales income than in larger works.

In the early days, the illumination obtained from gas lighting was no better than that obtained from oil or candles and households were not over-anxious to make the switch. More customers appeared when the Argand lamp arrived and many more when the gas mantle arrived in the 1880's.

Gas meters had not been invented in 1848 so that a gas bill had to be based on estimates - the number of lamps in the premises and the amount of gas that could be consumed by those lamps.

In 1860, Moreton's gas price was 7/6d per thousand cubic feet and the shareholders received their first dividend. In the same year, the Stow-on-the-Wold Gas & Coke Company was formed and in 1863, Moreton's unlimited company was changed into a limited liability company. In 1867, the Chipping Campden Gas & Coke Company Ltd held its first meeting to discuss tenders.

In about 1870, gas meters made a hesitant appearance and gas could now be bought by the pennyworth. This brought a new class of customer and a not inconsiderable problem of emptying the meters.

In 1875, a 4 inch iron main was laid to the London Road terraces and down as far as Wellington terrace.

The annual hand-written contract between the Gas Company and the Parish Lighting Committee had to be carefully formulated. In 1877 there were 23 street lights, the contract providing that the lights need not be lit "for 3 nights before the full of the moon and one night after the full". This reduced the annual gas bill and in later years the excluded nights were increased.

In 1878 Moreton gas still cost 7/6d per thousand cubic feet. During the 1880's electricity started to appear on all sides and the gas industry stepped up its research for improving the luminosity of gas which still came from the incandescence of the gas without any external help. In 1887 the Incandescent Gas Light Company was formed to manufacture mantles and the growth of electricity was halted for a while. But the highly inefficient carbon filament electric lightbulb had been invented in 1879 and marked the shape of things to come.

The gas works was now nearly 40 years old and in 1886, Moreton's first gasholder, made from iron sheeting, was replaced by one made from steel sheeting. The annual dividend was passed for two years.

In 1888, the chairman of the gas company, Algernon Bertram Freeman-Mitford, who later became the second Lord Redesdale, installed electricity in his country seat at Batsford, near Moreton.

By 1890, both gas cookers and gas meters were used in Moreton although both had to be rented from the gas company. To encourage both existing and potential customers, the gas company introduced a dual pricing policy. Gas used for cooking would cost 4/- per thousand cubic feet where a meter was installed and gas for lighting purposes would cost 5/-. But where a separate cooking meter was not installed, all gas cost 4/6d per thousand cubic feet.

The Gas Year Book for 1900 showed that Moreton's gas works had only 50 customers of which 20 had cookers; there were 25 street lamps; gas production was 2.8 m cubic feet per annum.

In 1908, the invention of the tungsten filament incandescent lightbulb by George Coolidge was a boost to the embryo electricity supply industry and a blow to the gas industry.

A serious rail strike in 1911 prevented the delivery of much-needed replacement retorts and the street light could not be lit. In 1912 there was a miners' strike. By 1913, Moreton gas cost 4/6d for lighting and 3/6d for cooking.

The general strike in 1926 lasted for seven months and foreign coal had to be imported to keep the gasworks open. The income from the sale of gas was only just sufficient to pay for the coal and the company made a large loss.

Electricity had already arrived in Moreton in 1921 with the opening of the Playhouse Cinema but public electricity arrived in Moreton on 19th September 1929 (The Shropshire, Worcestershire and Staffordshire Electric Power Company Ltd). Many local houses were still

lit by either candle or oil and their choice of alternative lighting would undoubtedly favour electricity. The Annual Report of the Gas Company directors responded bravely. "The installation of electricity in the town would have an effect on gas consumption but it is hoped that with reduced expenses the company will be able to meet this competition"

On 8th August 1933, the gas company passed a special resolution which required the company to go into liquidation. The Moreton assets were sold to the Chipping Norton Gas Light and Coke Company Limited for about £3,500 and the Moreton shareholders received £13.17s.0d for each one of their £10 shares.

Moreton's gas production was now controlled by the Chipping Norton company whose directors were of German extraction. One of them, T F Ennis, was remembered by a correspondent to the Oxford Weekly News as follows. "Some members will remember this ponderous, monocled, long black-coated, choker-collared, phlegmatic and teuton-visaged gentleman."

Now that gas production was controlled in another town, it could be criticised more freely. It was said that combustibles other than coal were being introduced into the retorts and matters came to a head at Christmas 1936 when customers complained that they were unable to cook their dinners and that it cost 5d. to cook a pound of sausages.

In January 1937 there was a serious fire at the Moreton gas works. H M Inspector of Factories and Workshops was told that the small gasholder had some 50 patches on it and despite protestations he banned the use of the holder.

In 1939, the large gas holder was replaced for the third time at a cost of £635. Some statistics of the works at this time might be of interest -

Customers: 369 of which 304 were slot meters. 300 cookers, 25 gas fires and 41 street lamps

Gas price: 5/10 d per thousand cubic feet

Coal usage: 600 tons at a cost of £690

Gasholder: 20,000 cubic feet capacity

Production: 7.5m cubic feet

Sales: Gas £2,184, coke £305 (140 tons)

In 1943, the government asked all gas works to separate benzol from their waste products for use in petrol production. Moreton had no arrangements at all to separate by-products - all potentially valuable chemical goodies went into the tar well, but they installed equipment to extract benzol.

During WWII gas prices were controlled by the Ministry of Fuel and Power. Gas street lighting ended after the 1945/46 season.

During the bad winter of 1946/47 the coal supply failed and the gas works closed. Horses and carts brought 5 tons of coal from a dump in Stow-on-the-Wold and further relief came from Chipping Norton. Four wagons had reached Bristol for Moreton but they seemed to have lost their way.

Nationalisation was foreshadowed in the Gas Act of 1948. Gas production ceased at Moreton in 1954. The holder was still used to store gas from Cheltenham but that closed in 1958. The site was cleared in 1962/63.

There are now few signs that Moreton ever had a gas works. Until recently there was a gas spike outside Gateway House but that seems to have disappeared and there are one or two connection plates that seem old enough to have been installed by the old gas company. The site itself has been cleared, only the old toilet block remains. The brick ring, the base of the old gasholder, appears every winter when the blackberries die down.

The plan of Moreton's gas works was supplied by South West Gas. It was drawn on 16th May 1949 just after nationalisation on 1st May 1949.

# MORETON-IN-MARSH. PLAN OF WORKS.



Scale,  $\frac{1}{4}$  inch to One Foot.

May 1949

