

Perspective on a Life in Industrial Gas

I joined the industry in the early 1960s with a degree in chemical engineering from Birmingham University. I started with North Thames in their Industrial Division, then moved back home and joined the East Midlands in Sheffield where I was involved in converting the steel industry from town gas to natural gas. I then moved to the Gas Council in London where my main work was writing industrial gas safety standards with colleagues from the Midlands Research Station. My final move was to industrial gas marketing primarily in petrochemicals (ammonia and methanol) before leading negotiations with the nascent, private sector gas power generators. After 25 years I left British Gas to set up the department buying gas for National Power (now RWE). A little over seven years later I left to become a consultant in buying gas in various countries for large scale gas usage such as power stations. This last phase of my career lasted about 14 years.

The following paragraphs are a few reminiscences of my life in industrial gas.

Then and Now

It's easy to look back and think how much times have changed but have they really?

When I joined the Industrial Division of North Thames I was told about our bible 'The Purpose & the Plan' a document produced by our Divisional Manager, Bert Tyrrell, setting out what we needed to do to beat the competition. Is that very different from today's Mission Statements and similar?

North Thames had been formed from the famous Gas Light and Coke Company in the 1948 nationalisation with many much smaller local companies added. Even 10-15 years later the former employees of these smaller companies looked back to the good old days of 'their company'. One colleague I remember well would regularly try to lunch in the canteen of the old Lea Bridge Gas Company where he had been happy. Is this very different from today when people look back to the warm comforting days of British Gas? Neither the nostalgia now nor then, was well placed; in both eras changed circumstances brought new interest and new opportunities to many.

It is certainly true that when I started, the industry was very hierarchical. Bert Tyrrell was 'Mr Tyrrell' and while we never saw anyone senior to him, had we done so, they would have been 'Sir' - had they deigned to speak to us, which is very unlikely. Today of course things have changed; the boss is John, Jim or Freda – totally relaxed. But have things really changed? The fact is that the competitive pressures behind the current bonhomie mean that today's 'leaders' (managers, when I started) are far more likely to dismiss someone – or perhaps in today's language - empower you to seek opportunities elsewhere.

Looking back I realise that, despite the hierarchy which changed over the years, North Thames, East Midlands, Gas Council and British Gas (HQ) were great places to work. I was happy because of the great people with whom I worked.

The one thing which irked in my early days was the bureaucracy. One prime example was to do with travelling to Southend. The best route from Fulham involved crossing to the south of the Thames. However south of the Thames was SEGAS territory. The only legitimate way you could take that route was to seek the written authority of the Commercial Director of North Thames for each occasion. Empowerment had not been thought of in those days.

How Things Were

There were parallels between today and when I started, but mostly it was different due to the structure of the industry then.

Firstly, while industrial gas was an important load we did not feel we were either valued or understood. To the Board the gas industry was production, the original focus of the industry; distribution – yet more engineering if somewhat simpler; finally there was domestic gas with its obvious simplicity and glamour and the joy for management - opening showrooms.

Industrial gas was far less well defined; we fitted gas fires into offices, air heaters into warehouses, overhead radiant heaters into canteens; we advised on heat treatment of metals, conversion of boilers from coal to gas, designed gas networks in factories; we supplied oxy-gas burners for precision glass working, Bunsen burners for laboratories; we worked to improve crematoria - still one of the most successful gas loads. And that was not the half of it – chip shops, bakeries, ceramic industries, brickworks – the list goes on; anything that needed good clean heat. The result was that industrial departments tended to be away from the respectable parts of the industry. North Thames Gas' Industrial Division HQ was down in some old gasworks buildings in Townmead Road, Fulham.

We were more like a separate company. We had an industrial development laboratory, a design office and a team of experienced engineers to advise customers on using gas. Many gas boards had similar set-ups trying to do better than each other. We had the incentive because gas was relatively expensive and our monopoly position gave us the financial strength to set up and fund our Midlands Research Station as well as individual Gas Board industrial development departments. Now all this has gone as energy companies have no incentive, or more important the margins, to support gas usage.

The prime competitor (enemy) was electricity with oil growing in importance. But electricity is what we hated. We did everything to beat them. We had a real incentive to develop better equipment – not only industrial but domestic too. Many criticised our industries for this. Why should two state owned industries compete like this and waste money on advertising? The answer was in the result for customers (consumers in those days) - things got better. We were both monopolies and without this incentive, equipment would have improved far more slowly, if at all. One of our aims for gas-fired furnaces was to do the job without any electricity at all – often possible in those days with the superior burning characteristics of town gas but not with poor burning natural gas. Some are surprised when people talk of the poor burning characteristics of natural gas but it is a fact. Town gas burnt easily because it contained about 35% hydrogen which made the gas burn fast so that the flame was very stable on virtually any burner; natural gas has to have a means of keeping the flame on the burner or the flame lifts off the burner. This is why every burner had to be replaced when we switched from town gas to natural gas

The antipathy to the electricity industry lived on for some time. When I joined the Gas Council some years later, X, one of my former colleagues (I still remember his full name) had recently left and joined the Electricity Council; he was never forgiven and his name only mentioned as a warning to others not to leave the true path.

When I left to join National Power (now RWE npower) in 1989 the attitude had changed. I left in the wake of warm feelings – or perhaps they were just glad to see me go!

Events

During my time I have been present in key moments in our industry even if I did not know it at the time.

One day a large area in our Townmead Road offices was cleared out and was occupied by a man called John van der Post (the son of Laurens van der Post) and a small team. There they planned the setting up of the then Gas Council's, Engineering Research Station in Killingworth. Quite why they were sent down to some of the most decrepit buildings in the worst part of Fulham for this task I do not know.

In North Thames we also were involved in the first tentative experiments of conversion from town gas to natural gas. While I had little to do with the real engineering – trying to find ways to make natural gas burn as well as town gas, I was down on Canvey Island on the day we first introduced natural gas to customers. It was not a complete success but only about one family had flames rising high from their cooker.

Gas pricing

While I was at Gas Council/British Gas the market-related pricing policy which eventually led to the end of the British Gas monopoly, was developed. In essence we priced our gas against the customers' alternative fuels. So that a customer who could use heavy fuel oil (cheap and nasty) would get gas cheaper than one who could only use nice and clean gas oil. Then the price of gas would move in line with oil prices. This seemed fair and logical and prevented waste of a good and noble fuel. We all fervently and professionally promoted that policy to customers who, in the main, accepted it as reasonable. Similar policies were pursued with equal success in many continental gas markets.

Looking away from the narrow world of gas we can see the fallacy in this approach. Go to the supermarket checkout with an apple. Are we told that the price of the apple depends on what you want to do with the apple or that the price is 0.9 times the price of a pear (a fruit which can be substituted for an apple)? The reason this cannot happen is that supermarkets are not monopolies; we can go elsewhere.

Interestingly the oil-linked gas price is still used in some parts of the world where free markets have fully not developed.

Power generation

Like today, every industry makes the best of what it has in PR terms, and the gas industry did the same. When I was young it claimed that it was making the best of coal – producing town gas, coke and coal-based chemicals – what could be more efficient? Then when we found that making gas from oil was cheaper, we said we were using the best modern technology. When it came to natural gas we said we were managing a natural resource. And it was with natural gas we performed the most gymnastic PR turnaround with power generation.

Natural gas was considered a premium fuel (whatever that was) and power generation was most certainly not a proper way to use what was nearly a pure chemical, methane. This was despite that fact that methane is suitable as a feedstock for very few chemicals due to its simple structure. The problem came when we got large volumes of natural gas from the North Sea rather than small volumes of LNG from Algeria. The way to get gas flowing quickly in large volumes was to sign up large new customers, and a key one, was the CEGB who converted two power stations, Hams Hall and West Thurrock, to gas; this, combined with supplies to ICI chemical plants got the show on the road. Once the industry got more customers converted to natural gas the two stations were switched back to coal, although there was a brief switch back to gas during the miners' strike some time later.

Neither CEGB nor Gas Council/British Gas wanted to use gas for power generation although for different reasons.

CEGB wanted to use 'strategic fuels', coal and nuclear, rather than fuels which would not last for more than 100 years, such as gas. Quite why this was, when power stations did not last for more than about 40 years, is unclear. The intellectual weakness of this stance was demonstrated at the time of privatisation. CEGB had at least two coal-fired stations on the stocks. Virtually the first thing which the successor companies National Power and PowerGen (now Eon) did, was shelve the new coal-fired stations to focus on gas – that's how I got my job with National Power and another British Gas colleague headed up the PowerGen gas department!

The driving force behind the Gas Council/British Gas stance was almost a moral one. Gas was too good to burn. It is also often said that the EU banned gas for power stations - this is misleading. What they said was "no power generation without a good reason, such as load balancing". Any rule as loosely based as this, particularly with the EU, could be bent and was. The Netherlands, for example, had plenty of gas-fired power generation as it was its only indigenous fuel other than coal.

The crunch came in 1988/90 as the privatisation of electricity was being planned; private developers saw an opening for private generation as competition to CEGB successor companies. The Electricity Boards about to be privatised had never liked the rather arrogant CEGB and saw an opportunity through the private developers to do CEGB down. A series of so called Independent Power Projects were set up which purported to be examples of private sector dynamism. However underneath this façade the projects would be financially dependent on Power Purchase Agreements signed by the Electricity Boards. British Gas was therefore approached by many, mostly unknown companies wishing to buy gas for the new generation of quickly built and thermally efficient combined cycle gas turbines. As a *de facto* monopoly we were forced to open negotiations with this new generation of generators. At that time while others could in law buy gas from producers, those producers did not want to 'waste time' with small unknown companies and it is believed they did not want to offend that mighty monopoly, British Gas.

It was probably only when National Power and PowerGen moved into gas purchasing (led by ex-British Gas people) that that long lasting monopoly ended.

Today's World

British Gas plc, our company, no longer exists as a single entity. However what remains should make the former employees proud of the basis from which the new structure has been built.

- Centrica, in essence the marketing arm of British Gas plus the Morecambe Bay gas field is the biggest supplier of both domestic gas and electricity. Its reach now is extraordinary; it owns power stations; it owns Dyno-Rod and markets gas and electricity in the United States. Most important, Centrica led the way in demonstrating that you could sell energy without owning pipes or wires.
- BG Group has become a world class player in LNG markets. It has become such an attractive company that Royal Dutch Shell is at the time of writing offering a premium to buy the company.
- National Grid, which took over the transmission and distribution arm of the company, is an international player in both gas and electricity transmission and distribution.
- Our R & D arm which was not viable as part of an energy company in markets with very tight margins has become a part of DNV GL Group, an international certification body and classification society with main expertise in technical assurance, research, certification, and risk management.

All in all our industry has a lot to be proud of!

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