

## Partington - from Town Gas works to LNG storage site

**Town Gas.** Manchester Corporation's Gas Department acquired a 175-acre green-field site in Partington in the late 1920s and the first town gas manufacturing plant was officially opened on 8<sup>th</sup> May 1929. It supplied gas through a 10 miles-long main to central Manchester. The site was straddled by Cheshire Lines Committee's railway - vitally necessary to transport the original plant's requirement of 500 tons of coal each day. This was the start of several gas making technologies which continued on the site until natural gas was discovered and exploited from 1966 onwards. In the late 1960s, the Gas Council took the decision to construct an LNG facility on 55 acres of the site, to the south of the railway.

**Preparations for LNG.** In early 1972, Leslie Hearfield was appointed the first Manager at Partington, with Mike Hosker as his deputy. The construction Project Managers were Eddie Hutchinson, succeeded by Dr David Hinton, based at Marble Arch with Dick Peet as Resident Site Engineer. The major contractors were: George Dews – the site civils; Cryoplants (a division of the British Oxygen Company) – the liquefiers; William Neills and Whessoe – the tank builders; with William Press erecting the site's pipework. The architects were Architects Design Group of Nottingham and their brief was to banish the dirty, traditional image of the gas industry and create a clean and modern streamlined appearance for the site. The construction project was severely delayed because of serious shortages of steel then, as well as welding problems with some of the cryogenic materials in the tanks' construction. Early tasks undertaken by the original site management were recruitment and training of the permanent site staff; purchasing spares for the plant; preparing commissioning, operating and safety procedures and assisting with the commissioning and early operation at Glenmavis.

Shell Chemicals were also constructing and commissioning a large new plant at the same time as Partington and their recruitment programme resulted in all of the newly appointed shift operators moving to similar jobs at Shell. The vacancies had to be quickly filled by employing agency operators and Mike Hosker recalls being called out on Christmas Day to allow the police to search the locker of one of these temporary staff who sadly became involved in a fracas outside midnight mass at Partington's Catholic Church, during which someone was very seriously injured in a stabbing. The offending shift operator was not seen again!

In 1973, when Les Hearfield was appointed LNG Storage Manager, based at National Transmission's operational headquarters at Hinckley, Mike Hosker took over as Manager starting a 20-year long period in this position. Ian Holbeck was appointed as the Deputy Manager and he served a lengthy period at Partington before becoming Manager at Glenmavis and then Bacton.

As the Partington LNG site was built, so the existing gas making sites were run down. The reforming plants at Common Lane and Broadway employed about 300 staff, whilst Partington was destined for a mere 35. A number of the original staff were recruited from 'over the road' and a close relationship was formed with the Common Lane and Broadway managers. Other staff were recruited from elsewhere in the North West and other Regions of the gas industry. The coal industry was declining and some staff came from there. It is interesting, looking back, that virtually all the new staff were recruited from nationalised industries. All these original staff were of exceptional quality and created a tradition of excellence at Partington which their successors proudly maintained. Unfortunately, a drive to reduce staff during the second half of the 1990s resulted in many of them taking early retirement: a great deal of knowledge and experience was lost.

Partington, by far the biggest of the sites being built by the then Gas Council, attracted world-wide interest. Hosting big visits, often of VIPs, was a significant part of the job during many of the early years.

Mike recalls one led by the Deputy Prime Minister of the Soviet Union who was heading a trade delegation to purchase equipment for the trans-Siberian gas pipeline. National Transmission's Director of Engineering, Jim McHugh, joined Mike at Partington to host this important visit. He had arranged for the Marble Arch public relations department to supply commemorative gifts, including some high-quality cigarette lighters embossed with the logo of the British Gas Corporation. Jim McHugh was furious to discover that these lighters were also embossed with 'Made in Germany' and insisted that all the skilled employees on site be organised to carefully obliterate this reference, making the provenance of the lighters completely anonymous!

Mike also recalls a succession of government ministers visiting site. One in particular, Tom, later Lord McNally, was not much interested in the site, but was very keen to obtain views on the U.K.'s relationship with the European Union. Within a month of his visit, he resigned in protest against the government's anti-Europe policies and became one of the members of the SDP. These big visits continued apace until more large sites were built, such as St Fergus, which provided some relief for Partington.

**Safety.** In 1974 there was a very serious accident at chemical works owned by Nypro UK at Flixborough in Lincolnshire. Many staff on site were killed or fatally injured, the control room and fire-fighting facilities were wrecked and around 1,800 buildings within a mile radius of the site were damaged. This caused a major rethink of some aspects of Partington's design. The risks were low, but there were concerns about the control of a fire resulting from a spillage of LNG into the bund catchment areas. It was decided to radically change the design of the earth bunds around three of the tanks, including surrounding them with the largest fixed foam generation systems ever installed at that time. The fourth tank was closest to the local housing and the bunding arrangement was changed into a 26 metre-high pre-stressed concrete wall, this design becoming standard for all subsequent steel LNG tanks in the U.K. A new fire-fighting pumphouse, reservoir and remote emergency control room were also constructed.

The government inquiry into the causes of the Flixborough Accident resulted soon after in the establishment of the HSE. During the late 1970s the CIMAH regulations were created which required sites storing hazardous materials to submit to the HSE a Safety Report detailing the management arrangements to ensure the safe operation of the site. Mike and his colleagues undertook the mammoth task of drafting the first of these reports to be submitted by the gas industry.

**Teething problems.** During the 1970s, plant was gradually being commissioned and teething problems manifested themselves. During the purging of the first tank to natural gas, for example, one of the shift engineers, Gordon May, noticed bubbles coming through the water lying on the tank foundations and clearly coming from under the tank's base. A check of these bubbles showed them to be natural gas, demonstrating that the bottom of the tank was leaking. Mike and his colleagues had to purge the tank back to nitrogen, whilst the tank builder developed plans to correct this serious problem. The first task was to precisely locate the leaks, which fortunately were below the interspace between the outer and inner tanks. The tank builder then developed a tunneling shield which was inserted through the tank's outer shell and interspace finishing hard up against the inner tank, allowing access for a welder to enter and weld patches over the damaged base plate.

This exercise had to be repeated at a number of locations on more than one of the tanks and its success demonstrated the expertise that British industry had during that era.

A sound relationship was forged with Partington Town Council largely thanks to the employment of Molly Rogers as the Site Construction Manager's secretary. Molly's husband Ken was an influential councillor in Partington.

During the early days, much of the site's mail was incorrectly delivered to the Common Lane site operated by North West Gas. The primary cause of this was the lack of a name for the site's entrance road. It was Councillor Ken Rogers who suggested that Heath Farm Lane would be a suitable address for the LNG site.



The Partington site showing the four LNG storage tanks in the mid-1980s

**Community relations.** The local population generally considered that the site was a good neighbour. One reason was possibly because the site manager was required to make an immediate visit to anyone who complained. Mike recalls a few days when he couldn't keep up with all the complaints that were being made about loud night time noise. These were traced to the site's incinerator, which burnt liquid heavy hydrocarbons when the liquefiers were operating.

Acoustic specialists from the Research Station identified that the incinerator's chimney was acting like an organ pipe and producing very low frequency sounds which could be heard at extended distances. A simple modification to detune the chimney solved the problem and allowed Partington residents to have a peaceful night's sleep - and Mike to escape their wrath!

The site did not only affect its immediate neighbours. For the first 25 years of the site's life, it had an odorant plant, which was needed to re-introduce the smell removed by the liquefaction process. This plant stored an incredibly foul smelling mixture of sulphur compounds, called odorant BE. Metering pumps injected very small quantities of this liquid into the outgoing gas. On a couple of occasions, very large numbers of gas leak complaints were received by the industry's emergency telephone centre, from the more distant residents of Altrincham and Bowdon. These were eventually traced back to very small leaks from the odorant plant combined with inverting atmospheric conditions, which caused no local smell, but funnelled it off towards outlying communities. The site's operational and maintenance teams breathed a collective sigh of relief once there was no longer a need for this plant and it was decommissioned.

Partington did not have an official opening. This was because the threat from IRA terrorism was growing as the site was developing and drawing attention to the site was considered an unnecessary risk. Signposting of the site was intentionally sparse and the O.S. maps were deliberately very sketchy. Bomb threat procedures were written and rehearsed. On one occasion, Mike asked his wife to ring the control room using an Irish accent and give a warning that a bomb would soon detonate on site. Peter Eichhorn was on duty and expertly dealt with the incident, not knowing it was an exercise. Once everything was under control and other services had taken over the incident, the apparently cool and calm Peter asked someone to give him a cigarette – his first for over ten years! Mike's wife felt very guilty! The threat from the IRA lasted right through to the cease-fire in the early 1990s

**Partington's heyday.** Exports of gas from Partington during the late 1970s were crucially important to the security of the National Transmission System because Partington and Glenmavis (near Glasgow) were the only NTS locations with gas storage. During that period, the majority of the U.K.'s gas was being delivered into Bacton and exports from Partington and Glenmavis were normally required when technical problems at Bacton caused supply shortfalls, often during severe weather in the depths of the winter. During one of these periods Partington continuously exported for 4 days, much of it at maximum rate, because of offshore compression failures at Bacton, in what was described as 'white-out' snow conditions.

The weather suddenly changed on the 5<sup>th</sup> day with three quarters of Partington's stock exported, averting the need for an emergency television appeal for large scale economies in the use of gas. Some would say that luck came to the rescue, but others would argue that the carefully evaluated probability of sustained bad weather had proved to be correct.

Thankfully, emergencies at Partington were rare. Procedures were developed during the commissioning phase and exercises were regularly held to ensure that staff knew exactly what to do. Important emergency equipment was regularly tested to make sure it would operate reliably. A phone call in the middle of the night usually meant that an emergency response was underway.

A good example was the discovery of flammable material discharging into the Manchester Ship Canal from the British Gas outfall. Flammables discharging into the canal were taken very seriously following an accident caused by another company which resulted in fatal injuries being sustained by 5 men using Bob's Ferry from Partington to Irlam in April 1970.

On the night in question the canal authorities assumed that the gas sites were responsible and called out the duty managers. Mike Hosker met up with Norman Beauman, who was the Deputy Manager for the North West Gas sites. It was evident to them that the discharge was coming from elsewhere because the gas sites did not store anything vaguely like this strongly smelling flammable substance. Norman and Mike started to follow the site drainage systems, gradually working upstream. The pollutant was present right up to the eastern boundary of the site, where the drainage channel was an open brook, while on the other side of the boundary road, the flammable material could be seen flowing to the brook's surface.

This point was where the four pipelines from Shell's refinery at Stanlow to their plant at Carrington passed underneath the drainage brook. Shell were informed and it turned out to be a leak in their pyrolysis gasoline pipeline, which was rapidly isolated and subsequently repaired. Consequently, a serious incident was averted.

**Social events.** On a less serious note, a calendar of social events was established in the early days of the site. The primary one was the Christmas Dinner, held in a hotel and largely financed by the company. VIP guests would come from either Marble Arch or Hinckley. Bob Evans, a future Chairman of British Gas, came to the dinner held in December 1973 at the Ashley Hotel in Hale Village. This was during a period of coal shortages caused by the miners working to rule and legislation had been passed to work a 3-day week from the start of 1974. Saving electricity was top of the agenda and Bob Evans was ribbed because the newspapers reported that a British Gas official had proposed sharing baths to save energy!

Other social events became part of the calendar with a bowling competition being particularly popular, often being won by Stan Charters. The most regular social event was daily table tennis with a table erected in the workshop for a brief period during the lunch break, the top performers being Chris Hill and George Martin. Others played darts, also in the workshop, with John Cleere being the one to beat. Tony Porter was an all-rounder in both events. Table tennis and darts competitions were organised outside work time and the top spots were keenly fought for.

The large area of grass on the site was originally cut by Alan Wetherby, who first worked for the Civil Engineering contractor, George Dew, filling their diesel- driven plant. He was known to all as 'Diesel Dan'. He obtained a licence for his sheep and goats to graze on some of the non-operational land and he obtained permission from others for his animals to graze on land to the far side of Heath Farm Lane. Other landscape maintenance contractors took over the grass cutting in the 1990s, but Diesel Dan's menagerie is still present opposite the Heath Farm Lane gatehouse.

**The end of an era** Mike Hosker left Partington in 1993 to work in Hinckley and Solihull on the introduction of competition in the gas industry and help create Transco Storage, an independent gas storage company. He then left this new company in 1997 and worked as an independent gas storage consultant on a number of gas storage projects. In 2009 he was contracted to do some process safety auditing work across the LNG sites and then specifically at Partington.

In 2010 this contract changed into supporting the decommissioning and demolition project, until September 2012. Mike found himself producing the same type of procedures that had been written almost 40 years earlier. This time however, the procedure was to empty the tanks, allow them to warm up, then nitrogen purge the gas out of the tanks and the remainder of the plant and finally to replace the nitrogen with air – completely the reverse of the 1970s commissioning. What was very different was the speed with which the plant was demolished – 4 or 5 times faster than the time taken to build the site. Mike is proud to have come full circle with the birth, long life and end of such a prestigious plant.

**Mike Hosker 2016**



Partington during demolition