AGECROFT POWER STATIONS 1924-1993

by PETER HOOTON



About the author

PETER HOOTON joined the electricity supply industry in 1950 at Agecroft A as a trainee. He stayed there until his retirement as maintenance service manager in 1991. Peter approached the brochure project in the same way that he approached work — with dedication and enthusiasm. The publication reflects his efforts.

Acknowledgements

MANY members and ex members of staff have contributed to this history by providing technical information and their memories of past events in the long life of the station. Many of the tales provided much laughter but could not possibly be printed.

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Finally can I thank Mike Stanton for giving me the opportunity to spend many interesting hours talking to colleagues about a place that gave us years of employment.

Peter Hooton

1 September 1993

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A complex web of steel rods reaches to the sky: B station's No 2 cooling tower under construction in 1948

Foreword

FOR almost 70 years electricity has been generated at Agecroft. It is a record of achievement and service that should be acknowledged and this booklet is intended to do that.

The power stations have been blessed with good plant through those years. But as everyone in the industry knows, good plant is only one of the ingredients which go to make up a successful site. Even more important are good people and ever since A station began generating in 1924 Agecroft has been blessed with exceptionally good staff.

For my part my nine years at Agecroft have been the most enjoyable and rewarding of my whole career. Memories of the station and its

Mike Atom to.

Mike Stanton Station Manager, Agecroft Power Station staff will remain with me for the rest of my life. Like you I feel sad that the station has ceased to generate. But as this booklet reminds us, even the most modern of stations one day grow old and close.

I hope you gain pleasure from reading this booklet. It is not meant to be a technically accurate day to day record of the history of Agecroft, more a series of sketches that are, rightly, as much concerned with people as plant. Peter Hooton deserves our thanks for the many hours of effort he has put into it. I would like to end by thanking all of you for your efforts over the years. They have helped make Agecroft a success of which we can all be proud.





The Agecroft site today: the fair place that became an industrial landscape

Chapter One Historical Note

THE large-scale production of electricity is relatively recent. Its development depended upon discoveries and inventions over hundreds of years and two local people played a significant part in that process.

One was William Sturgeon, 1783-1850, the originator of the electro magnet. In his later years he lived in Prestwich and is buried in the church which can be seen from the power station.

The other was James Prescott Joule, 1818-1889. Joule, who was born in New Bailey Street, Salford on December 24, 1818, has often been described as the founder of modern physics.

In his laboratory at Pendlebury he carried out many years of research into the conversion of energy, establishing the scientific unit of energy which carries his name, the Joule. In later years, he lived in Sale and is buried at Southern Cemetery.

Britain was a world leader in electricity. The first public supply was established at Godalming, Surrey, in 1881 and in the following year the first legislative measure — the Electric Lighting Act — was passed.

This Act, and a succeeding one of 1888, enabled the Board of Trade to authorise the supply of electricity and regulated the granting of licences and provisional orders.

In 1890, a year after Joule's death, a provisional order was granted authorising the Salford Corporation to supply electricity throughout the Borough. But it was not until 1895 that a single phase alternating current distribution system was inaugurated.

The power station on the banks of the River Irwell at Walness Road, Pendleton and the generating capacity was a modest 360 KW (kilowatts). Total cost of generating plant and distribution system was £42,000.

The original supply system was inefficient and after a few years, partly as a result of a decision to electrify the horse-drawn tramway system, it was decided to build a new station. A site in Frederick Road, Pendleton, next to the Manchester Bolton and Bury Canal was chosen and the 6,400 kilowatt station opened in 1903. The generating plant and direct current distribution system cost £420,000. A further 3,000 KW was added later.

With demand continuing to grow arrangements were made in 1912 to take a 2,000 KW supply from the Lancashire Electric Power Company.

This was regarded as a temporary measure and it was obvious a more comprehensive scheme was needed to meet the Borough's future needs.

The 1914-18 war intervened and the Government restricted new developments but a rethink by the Electricity Committee resulted in the station's modernisation, increasing its capacity by 70 per cent.

A new station was, however, still needed, not only to meet growing local demand but also

A family station

The electricity supply industry has always had strong family traditions. Husbands, wives, sons, daughters, and in-laws made up an amazingly high proportion of the employees of the three power stations built on the Agecroft site. This list of surnames may not be the total: Ditchburn, Riddex, Hunt, Wilson, Clancy, Doyle, Dignam, Fleet, Carter, Fairhurst, Lowe, Kilgallon, Briggs, Voce, Royle, Dolan, Tomlinson, Berry, Bent, Riley, Rogers, Watkiss, Harrison, Fellinger, Peers, Meeson, Harper, Vancalsteran — and the ubiquitous Parrs Indeed there were so many Parrs that the station was sometimes referred to as Agecroft Parr Station.



Stately home that emigrated

AGECROFT is unusual in that the A station shared the site with a 15th Century hall. The estate itself was an ancient one. The earliest Deed still surviving is King John's grant of Pendlebury to Elias de Pendleburi in 1199. Agecroft Hall, which was built by Sir Robert Langley, was a pleasant black and white building of timber, plaster and brick, set on a low stone base and surrounding a central courtyard.

It stood on the west side of the Irwell Valley in a rural setting with trees, pastures and cornfields sloping down to the river. But later the area attracted industrial development. The canal and railway were built close to the hall. Agecroft Colliery, opened in the 1840s, was also close and later the Chloride and Magnesium Electron Works were built to the north. By the 1890s the owners, the Daunteseys, became unhappy about their surroundings and the hall was offered for lease. There were no takers. Over the next 20 years the situation of the hall worsened. The structure began to decay for want of maintenance and mining subsidence damaged the foundations.

In 1920 the pastureland sweeping down to the river was taken for the construction of the A station, at which point Evelyn Dauntesey moved out, leaving the hall to become derelict.

But in 1924 an enlightened American, Thomas C Williams Junior, bought the building. It was dismantled piece by piece and re-erected in Richmond, Virginia.

There it still stands— pictured above — on the banks of the James River, as a museum to 15th Century England.

The issue was raised in the House of Commons but nothing was done to prevent the transfer of the hall from the banks of the now industrialised Irwell. A comment in the Manchester Guardian perhaps reflected a majority view: "Agecroft Hall is too reproachful a jewel to leave in that ruined landscape." demand from South East Lancashire. But it was not an easy matter to resolve. The Borough Electricity Committee Annual's Report in March 1918 highlighted the difficulty in taking a decision when the future of electricity generation was being considered on a national basis and there was the possibility that the ownership of power stations would be changed by statute.

"The Committee is aware that the Board of Trade has appointed a Committee to investigate and report upon power supply for the whole country and it appears certain that a scheme for centralising the generating of electricity in large stations owned and operated by District Boards representing the statutory authorities in each district, will be authorised and put into operation at an early date."

The Board of Trade Committee did report and this led to the Electricity (Supply) Act 1919 and the creation of a new regulatory body, The Electricity Commissioners. The Commissioners did not, however, have compulsory powers to take over existing power stations.

The Borough Electricity Committee decided to go ahead with the new station and a plot of land on the west bank of the River Irwell at Agecroft was selected as the site.

The land, which had originally been purchased for tipping, was considered ideal for the purpose. There were a number of setbacks but consent from the Electricity Commissioners was finally obtained in June 1922 and the main contracts for what was to become Agecroft A Power Station, the first of three power station on the site, was placed by the following September.

Surprisingly Agecroft A was not the first station in the immediate locality. In 1914 a power station at was built at Clifton Junction by the Lancashire and Yorkshire Railway Company to provide direct current supplies for the then new Manchester to Bury electric rail line. The line continues to operate today but the power station was taken over by the Lancashire Electric Power Company in 1931 and closed in 1933.

Today it is difficult to imagine what the valley of the River Irwell was like before the Industrial Revolution. It was an attractive area. Over the years the gentry had built their homes along the banks of the river: Kearsley Hall, Clifton Hall, Irwell House, Agecroft Hall, Kersal Hall and Pendleton Old Hall.

Change began with the building of the Manchester Bury & Bolton Canal in 1793 to move coal and goods from the numerous mines and small factories that had developing north of Manchester.

Then came the Manchester to Bolton railway, built by the Lancashire & Yorkshire Railway Company, which still today runs alongside the canal at Agecroft.

Those two developments, along with the extensive coal-mining, were to change Agecroft from 'a fair place' into an industrial landscape.

Lighting the way

Godalming in Surrey saw the first public electric supply — on Monday, 26 September 1881. But trials had been held elsewhere, notably during the 1878 Paris Electrical Exhibition, and the new incandescent lamp had been denonstrated in London. Initially there was great suspicion of the new fangled electric light and hotels using it would post notices warning guests that they needed only to turn the switch: unlike gas it did not need lighting with a match.

A contemporary poem catches the feeling:

Dear Jones, at Pendleton last night 1 saw the famed electric light; And as I know you rather doubt it, I write to tell you all about it.

Chapter Two The A station

The Agecroft site has hosted three power stations. Today the first is called the A station — the others are B and C stations INITIAL work on the site of the first power station at Agecroft — later to be known as the A station — began in January 1921.

The area was levelled and by the time major work started two years later the substantial boundary wall with wrought-iron fencing and gates had been completed. The site, then of some 65 acres, was an exceptionally good one for power generation. Ample supplies of cooling water were available from the river while the Thirlmere Aqueduct, next to the site, could provide mains water. There was good road access and both the Manchester Bolton and Bury Canal and the main railway line from Manchester to Bolton provided excellent transport facilities for coal from the numerous collieries in East Lancashire.

The site was also well placed for connection to other large stations: Manchester's Barton and Stuart Street power stations were within six miles and the Lancashire Electric Power Company's Radcliffe Power Station was about four miles to the north.

Although the area has many geological faults, the cost of foundations was comparatively low as a thick bed of sandstone extends over the site only 12 to 15 feet below the surface.

A narrow gauge rail track with steam cranes was used for construction of the building. Although the rail lines were later removed the sleepers were not. They were used for the foundations of the roadway that would become the main entrance to the later B and C Stations. It was not until 1989 when the road surface began break up was this discovered.

The original scheme for the A station provided for an ultimate generating capacity of 50,000 KW — 50 megawatts — to be installed in stages. The first 12.5 MW turbo-alternator began generating in 1924. It was made at the Trafford Park works of Metropolitan Vickers, which also made all later turbo-alternators to be installed on the site.

The steam for the first three turbo-alternator was supplied by six Babcock & Wilcox boilers each producing 65,000 pounds of steam an hour at a temperature of 720 Fahrenheit and a pressure of 325 pounds a square inch.

By the time the station was officially opened on September 25, 1925, the two additional 12.5 MW turbo-alternators had been commissioned giving an installed capacity at that time of 37.5 MW — more than a thousand times the capacity of that first Salford station at Walness Road.

The opening ceremony was performed by the Mayor, Alderman G Billington, who had been chairman of the Electricity Committee from 1909.

He had been behind the proposal to build the station and the council's adoption of the proposal could be attributed to his efforts and enthusiasm. It was fitting that the station should be completed during his term of office.

The station could take coal by rail, canal or road. In view of the costs involved in bridging the canal it was decided to unload from both rail and canal at Clifton Junction sidings about three-quarters of a mile north west of the station boiler house and move the coal over the canal by conveyor.

A wagon tippler discharged coal on to a conveyor feeding a nearby hopper which also took coal lifted by a rail mounted jib crane from canal barges.

The combined input was then lifted by conveyor over the canal to a hopper on the east bank which discharged directly into 2-ton wagons operating on a 2 ft 6 inch gauge electrified railway.



The rail line began in a loop under the discharge hopper and then ran the half a mile to the station where the wagons were discharged into bucket elevators and then on to the boiler bunkers by conveyor.

At the power station end of the line it looped round a coal storage area to allow stocking or reclaiming by an electric jib crane which ran on its own line within the loop, picking up from discharge wagons and placing on stock or filling wagons. A branch line ran to the locomotive shed where maintenance of the locomotives — made by English Electric — was carried out.

At first ash was carried by the rail system to the northern corner of the site for disposal but later it became prized by the building trade and was disposed of in that way.

The use of the canal for transport of coal was dispensed with early in the life of the station. In the 1940s the narrow gauge railway was closed to be replaced by lorries.

The boiler and turbine houses were of structural steel and brick construction with the north-facing wall clad in metal to allow easy extension. The other main plant building was the three-storey high-voltage switch house which housed the 33,000 volt switchgear for the main distribution circuits. This along with the workshop/stores building and the administration building were all that remained of the A station when the site closed.

At the time of the official opening, the capital cost of the station was about £750,000. The Salford electricity undertaking could claim to be one of the most prosperous and progressive in the country and profits helped to reduce the borough's rates.

In 1928 an application was made to the Electricity Commissioners for sanction to borrow $\pounds 150,000$ to cover the cost of a new 20MW turboalternator, boiler plant and switchgear. This was granted and the installation was completed by October 1929.

There was sufficient space within the existing boiler and turbine house for the new plant, thanks to improvements in design and plant performance which allowed increased output for a given size. The new boiler plant was manufactured and The A station, opened on September 23, 1925. installed by John Thompson Water Tube Boilers. The addition of the new plant brought the final generating capacity to 57.5 MW.

At the time the station was built, smoke emission from chimneys was regulated but technology for minimising emissions was not available.

Particle emissions were controlled by grit arrestors that were not always successful. At dawn an onlooker watching the station start up across a mist- covered river gained an impression of a First World War battleship steaming up the channel. When walking along Agecroft Road past the station every footstep resulted in a crunching noise.

Those were the days of frequent smogs but every household had a coal fire and nobody pointed an accusing finger at power stations.

Cooling water from the river was filtered through fixed and rotary screens which collected many interesting objects.

General rubbish was removed and tipped but wood, tree branches, furniture etc. were placed aside to dry and eventually cut to size to keep many a home fire burning. The cooling water, although a little warmer after completing its task of cooling was returned to the river with less debris.

By 1930-31 new main switchgear had been installed at the station so power could be sent to the new Grid System being established by the recently created Central Electricity Board. But it was not until 1935 that the station was to operate under the N.W. England and N. Wales Electricity Scheme of the Grid system. Despite advantages from the pooling of generating plant that the National Grid provided, further generating capacity was required in the Salford area in the

A very first small step

THE 360 kilowatt capacity of Salford's first power station, at Walness Road, Pendleton, would have been just enough to power 360 one-kilowatt single bar electric fires. Today it would meet the needs of less than 400 people. Each unit in a modern coal-fired power station will generate more than 500 MW, enough for half a million people. late 30s and the Electricity Committee planned a second station at the Agecroft site. But before work could start the war intervened and the plans had to be shelved.

Throughout the war years maintaining electricity supplies was given top priority and while statutory regulations were observed plant was run with the minimum of maintenance.

The turbo-alternators were completely covered with large sectional reinforced concrete covers to protect them from bombs. These covers were to be used for storage at the later C station. Brickwork and concrete on all the buildings was painted in camouflage, traces of which remain. Blast walls were built and all personnel trained in air-raid precautions.

Many station employees served as air-raid wardens or with the Home Guard or Auxiliary Fire Service. They were called out on numerous occasions, especially at the time of the Manchester blitz.

The bombers' main target was Trafford Park Industrial Estate. Fortunately no bombs fell on Agecroft station though many flares and incendiary bombs dropped close by and several land mines came down in the area. There was loss of life and much damage in Salford but the station escaped unscathed.

By the end of the war the electricity supply industry was in a parlous state. Little new plant had been built during the war. Spare parts were in short supply or not available at all so many had to be made on site.

At Agecroft what had been the locomotive shed was modified to accommodate a blacksmith's forge and there Jack Fleet the blacksmith used his skill, and in some cases his imagination, to fashion with the help of his striker Charlie Dignam, many parts not possible to obtain elsewhere. The word was "It's alright if you break it — Jack'll remake it".

The end of the war brought no reduction in electricity demand. Indeed demand increased and the indications were that it would double within ten years.

Coal was in short supply and power cuts frequent.

Nature made its mark on 20 September 1946 when, after many days of torrential rain, the River Irwell rose 17 feet above its normal level causing major flooding in Salford. The station's river intake was flooded and the screening plant bypassed, shutting down the station and causing power cuts.

When major overhauls were resumed after the war, excessive wear on the turbo- alternators was seen to have taken place and the general consensus was that only robust design and high manufacturing quality had prevented major failures.

The boiler plant had developed serious problems. The two John Thompson boilers had six drums, three drums in each showed major cracking and had to be renewed.

By today's standards the boiler house was always full of activity. Firing of the boilers was by chain grates, requiring constant supervision by the operations staff. The journey from one end of the boiler house to the other was hazardous. Twelve-foot slide bars, either laid on the floor or in the hands of the stokers, and piles of ash looking deceptively cool had to be avoided.

The mass of structural steelwork made it difficult to check the time on the clock set high at the south end of the building. Fortunately there was always one of the maintenance staff working on the boiler gauge glass gantry from which the clock was easily read.

There were regular requests from the floor for an update but with all the noise, sign language had to be used. This was satisfactory except when Bert Barker, a tall, mild-mannered fitter, was up aloft. Bert had lost half a finger in an accident. When he provided the time it was unclear whether it was 2.30 or 3pm. Challenged on this Bert would lose his mild manner.

The commissioning of B Station in 1950 had little effect on the operation of A station as electricity remained in short supply. However, by the late 1950s the pattern began to change and the A station began to operate only at times of peak demand.

The original boiler plant had reached 30 years



of age and required increased maintenance. Major changes were made that gave the station a new lease of life. Steam and condensate pipe lines were built from the B Station so that by operating all the boilers at 'B' Station, sufficient lower cost steam could be supplied to operate the 20 MW turbo-alternator at A Station. There were some technical problems but the scheme was successful.

The second decision was to take Numbers 1 and 2 Boilers out of service and convert the remainder to burn light fuel oil. The plant was easier to operate but the major advantage was that the environment was improved. Smoke emission was reduced and it was not always possible for passers by to see that the plant was in operation.

These changes to plant resulted in requirements for training and reductions in staff. By that time the A and B Stations had been integrated and staff transfer carried out on a regular basis. This had early problems since not everyone knew everyone else. In fact two men appeared on site for two night shifts before it was discovered they were actually patients from the local psychiatric hospital.

As a result of the modifications, A station continued to produce electricity during the 1960s and finally closed in 1970 after 45 years of service. With the commissioning of B Station in 1950 and C station in 1960, this meant that the three Agecroft power stations generated together for 10 years. The wooden cooling towers of the A station, very different to those on the B and C stations



Chapter Three **The B station**

EVEN before the Second World War the generating capacity available at Agecroft Power Station was insufficient for Salford's needs and large additional supplies had to be bought from the Central Electricity Board.

Agecroft was a "selected station" under the direct control of the CEB who advised the Salford Electricity Committee that there was an immediate requirement for an additional 100 MW of generation in the area, with an ultimate requirement of 200 MW, and asked the borough to provide it.

Refusal of the request was not a practical option as it would have resulted in the loss of the A Station to the CEB or another electricity undertaking.

But the war halted all progress on the project apart from design work on plant and equipment. The Salford City Electrical Engineer, Mr L Romero, arranged for civil engineering consultants L G Monchel & Partners, to carry out preliminary work for the new station and in December 1944 the Electricity Commissioners were asked for consent to build two 55 MW generators with necessary ancillary equipment at an estimated cost of £3 million. This application was eventually granted.

The new station was to be known as Agecroft HP — the initials stood for high pressure, relating to the steam — but later became known more prosaically as Agecroft B Station.

The generators were to be of essentially prewar design and made by Metropolitan Vickers with boiler plant made by International Combustion Ltd.

There was sufficient land available for the station on the eastern side of the canal but a further 44 acres was needed on the western side of the railway for railways sidings. This was purchased for £13,000 from Mrs Evelyn Dauntesey, the previous owner of Agecroft Hall.

Site preparation began in 1947 and



Line up for a retired employees' lunch at Agecroft.



Recipe for a good canteen

CANTEEN facilities at Agecroft varied over the years. In the early years of A station there were none at all. Then in 1929 came a wooden site engineers' hut followed in 1948 by a war time British Restaurant which had been used in Salford.

None encouraged relaxation or socialising but everything changed in 1960 when a new and spacious canteen was opened. Its facilities may well have owed something to the fact that Northern Project Group, then based at Agecroft, also used its facilities.

In the 60s and 70s, the canteen was kept at full stretch providing 1,000 meals a day for staff at Agecroft, the Project Group, and Barton and Trafford power stations — not forgetting contractors during overhauls.

During those years the canteen manager had 23 staff. With the closure of A station and the departure of the Northern Project Group to new headquarters in South Manchester, the number of meals served fell away. It rose again with the opening of the new training centre on the site of A station boiler and turbine houses. This brought new customers with healthy appetites.

From 1950 onwards to the closure of the canteen in 1992, the canteen staff contributed by their efforts to the success of the station's open days, children's parties, retired employees' dinners and other social events, such as bowls, cricket and football matches. immediately revealed difficulties. Although there was a good sandstone rock base for the foundations, it was found to be at varying levels. More significantly there was a crack in the strata, where the No 1 turbo-alternator foundation block was to be placed, from which 30,000 gallons of water an hour flooded into the construction area. The problem was solved by the construction next to the crack of what became known as the "Rock Fissure" pump house. This collected the water which was eventually used as replenishment for the cooling towers.

Also encountered in the bedrock were running pockets of sand, streams, underground channels and fossilised tree trunks. More substantial foundations were required which along with other problems faced during construction resulted in the final cost of the station rising to £6 million.

With nationalisation the late 1940s was a time of organisational upheaval in the electricity supply industry. The British Electricity Authority was created and took over all generating plant and became responsible for the construction of all new plant. Thus ended the Salford Electricity Committee's involvement with the Agecroft power stations. At nationalisation several power stations were being built in the North West, Merseyside and North Wales areas and all required design and project supervision. Offices were needed in the area and these were built at Agecroft as a two-storey wing between the A

Ups and downs on shop floor

MOST of the staff at Agecroft knew their stuff about the station's complex plant and machinery ... but not all of them. One recruit Joe, a most personable chap, had no engineering knowledge. But then he did not need it: his job was to keep the turbine house tidy. He decided to take a break and had just sat down when the phone rang. It was the control engineer who wanted to know from the turbine operator why the output on his turbo-alternator had fallen. But even before the call was

answered, output was restored. The engineer put the phone down only to see the output again fall. He rang again, only to see the output rise.

It was then the operator had noticed that Joe was sitting on the main steam valve relay cylinder, partially closing the valve. When the phone rang, he stood up to answer it, opening the valve. When all was explained to Joe his reply was: "It's a stupid place to put it anyway". He may well have been right. station offices and the workshop/stores blocks. These housed the engineering, drawing office and administrative services provided by the British Electricity Authority's Generation and Construction Department, later renamed the Northern Project Group.

The major effect of nationalisation for Agecroft was the re-appraisal of the original plans for a 200 MW station. The first 100 MW phase was not affected except that it was renamed Agecroft B LP (for Low Pressure). But the second phase was re-designed and was to be known as Agecroft B HP. Both titles were later of course, changed once more.

A main feature of the construction of B Station was the chimney, at the time the tallest in Europe. This was built by P C Richardson & Company and contained 1.75 million Accrington bricks, weighed between 5000 and 6000 tons and reached a height of 365 feet.

Foreman in charge of the project was Ted Henderson who ten years later was to build the C station chimney. He placed 14 shillings (70p) under the last brick as it was laid and said: "If anybody wants to get at it they'll have a long climb and welcome to it".

Other features of the new B station were the two cooling towers, easily distinguished from the later C station towers by the holes around the circumference at the top of the 312-foot towers. The holes were inserted to create additional turbulence in the escaping vapour to help disperse water droplets. Later an eliminator or baffle was fitted within the tower to serve the same purpose.

Development of the land to the west of the main rail line continued from 1947 until the commissioning of C station in 1960.

The biggest job was construction of the rail sidings. There was no direct access to the main line but a junction south of Agecroft Road was at a suitable level. Before the connection could be made a new bridge was needed for the road and Thirlmere aqueduct had to be diverted.

The sidings system was about one mile long and consisted of five lines either side of a double discharge tippler house, a locomotive shed and two conveyors. The conveyors carried coal from the tippler house hopper to a single conveyor



passing over the main line and canal. That single conveyor fed two coal bunker conveyors for B Station.

Staff amenities were built in the sidings area and overlooked, what for a few years, was a pleasant small lake area frequented by herons and other water fowl. A scaffolding plank resting on bricks served as a pleasant observation post to watch the wildlife at break-times and it was within hailing distance of the 3A Conveyor Operator, who could give warning of approaching authority.

To work the new sidings, two 0-4-0 saddle tank locomotives were bought from Robert Stephenson & Hawthorn. The locos, named imaginatively Agecroft 1 and Agecroft 2, were brought into operation in late 1950. A third of the same design was acquired from Bolton Power Station in late 1954 and this became Agecroft 3. These engines were in continuous use up to 1981. On September 13 and 14 of that year a "Farewell to Steam" weekend was held and 4,000 railway enthusiasts took a final opportunity to observe and travel the length of the railway sidings. No 3 loco can still be seen in operation at weekends in the Manchester Museum of Science and Industry where Ken Corfield, ex Agecroft locomotive driver, keeps his hand in.

With the sidings isolated from the station buildings and accessible only by foot over a high level bridge across the main line and the canal, the staff were a community on their own. Operation of the sidings system was straightforward. The working locomotive collecting the full coal wagons from the junction sidings to the south and took them to the wagon tippler. This was capable of dealing with two rakes of wagons simultaneously but the wagons were tipped one at a time. The emptied wagons were then pushed to the north sidings and subsequently hauled back to the south sidings for collection by British Rail.

There were many amusing and not so amusing incidents related by the staff. On one such occasion the tippler operator saw something drop from the wagon he was tipping on to the grid. It was a body. The operator immediately stopped the operation and shouted to the locomotive

CEGB Board

Member E S Booth officially opens the B and C stations on May 25, 1962. Below, the key to the station which was presented to W C Parker North West Regional director.



driver, Alan Parr. They apprehensively walked on to the grid to find a man shaken but, thankfully, uninjured. An ambulance was called and it was later discovered he had absconded from a local psychiatric hospital and had spent the night in the wagon on top of the coal.

By late 1950 construction of the new station was well advanced and the first turbo-alternator was commissioned on Christmas Day.

Among the Metropolitan Vickers engineers on site at the time was Ron Agnew, whose family had long associations with Agecroft. His father had worked for the same company erecting No 4 turbo-alternator at the A station in 1929. Ron himself later returned to Agecroft and became the station's mechanical maintenance engineer.

While the design of the new plant was essentially pre-war, some new equipment, albeit in its early stage of development, was installed. Automatic boiler control was one example. It was not a success but provided an insight to operational and maintenance personnel into the way plant control was developing.

Turbo-alternator plant was little different from that in the A station, except of course in size. The boiler plant however was very different.

Instead of the old moving chain grates, the new boilers used pulverised fuel firing. Mills ground the coal as fine as face powder before it was blown into the boilers, to burn like a gas. The flue gases passed through electrostatic precipitators to remove suspended particles of fine ash before being discharged up the tall chimney. Flue gas treatment was the single most important environmental improvement for the surrounding area.

The new workshops, laboratory and amenities were a big improvement on A station's. Even so several staff who had been transferred from A station asked to return: the change was too much.

There were many colourful characters working on the station. One who knew everyone was Jimmy Ross who had a second job as a 'bookies runner'. He would collect the bets, put the money in his cap and set off to the bookies on his bike. Unfortunately, one day he had a slight accident close to the main gate and fell off his bike. The tale goes that onlookers left him to fend for himself and ran after his cap!

In the early years of B station, national electricity demand was often high for the country's generating capacity and the station ran at base load — 24 hour a day operation.

In 1954 the March/April edition of Northern Lights, the monthly magazine of the North West & Merseyside Division of the Central Electricity Authority — as the BEA had by then been renamed — contained a question for Mr A R Cooper, the Divisional Controller submitted by "four weary turbine operators at Agecroft B."

They asked: Is it not possible to abolish the night shift?

Mr Cooper's reply was not encouraging. He said: "I am afraid that we shall have to endure night shifts for a long time yet but there seems to be no reason why we should have Turbine Operators feeling weary long before the end of the shift. You fellows will really have to start going to bed in the daytime."

The B station had 10 years of undivided attention but with the commissioning of C Station it took a secondary role. It proved, however, to be an excellent training ground for C station operations staff. In 1980, after 30 years of continuous service, B station was closed and decommissioned.

Typecast team

AFTER the station's first open weekend it was obvious that members of staff had a preference for, or were particularly well suited to, particular duties. A list of proposed nomsdes-plumes for these staff was compiled by Jack Lewis. It included: Ged Dutton, Alec Guinness, in charge of the bridge: Norman Dixon, head Chelsea Pensioner, in charge of the fossils; Ken King, Jimmy Young, always on the radio; Arthur Tattersall, road runner, never still; Beryl Peel, town crier, always shouting; and Jim Archer, Billy Graham, had a lot of followers. The author apologises for omitting anyone — but there are limits!

Chapter Four C station decision

PROVISIONAL plans for B station called for the installation of four 55 MW turbo-alternators. But by the 1950s advances in design made it possible to provide the same capacity with two 120 MW machines, offering higher efficiencies and lower capital costs.

The application to build the station went through the various stages of the planning process and objections were raised by various organisations, including Salford Borough Council, mainly on the grounds of air pollution from chimney emission and dust tip nuisance.

Assurances were given about dust disposal and the chimney height was raised from 365 feet to 450 feet to allow for extra clearance above the high ground on each side of the valley. Consent was finally given in 1955 and site work started the following year. The total cost was £13 million.

The site was capable of providing all the essential services for the increased capacity at minimum cost.

But restriction were placed on the design of the station on environmental and planning grounds. It had to conform as closely as possible to the original layout for the B station.

The east-facing wall of the new turbine house had to follow the line of the existing building and the two chimneys had to line up. The available area was limited and as a result the subsequent design created operational problems which were never satisfactorily overcome.

The station main plant was manufactured by Metropolitan Vickers and International Combustion — the same companies as at B station. This had its obvious advantages. Training was simplified and staff could observe the plant during its installation. This made easier the transfer of B station operations staff to C station during commissioning.

Number 3 Unit was commissioned in 1959 followed by Number 4 Unit in 1960.

No particular problems arose when building the station. Advantages were taken to improve various plant operations. These included the disposal of pulverised fuel ash. A pipe line was used to move the ash to the tip area, avoiding a local environmental problem that transport by truck would have created.

The pipeline proved a key factor in the decision of Thermalite to build a factory next to the tip to make building blocks from pulverised fuel ash.

From 1962 onwards within a radius of a quarter mile there was a mine, power station and a block manufacturer. At their peak the three collectively employed some 2,200 people.

The official opening ceremony on May 25, 1962 was performed by Mr E S Booth, the CEGB Board member for engineering. It was an

Hellfire and Agecroft!

AGECROFT was a popular destination for schools and other groups of visitors and for C station such visits became a daily occurrence.

With the cooperation of Manchester Museum of Science and Industry, school parties from near and far visited the museum and then went on to the station for a talk and guided tour conducted by five enthusiastic lady guides. Without exception, the joint scheme was a success. Teachers and pupils often said they were the most educationally informative they had experienced. Many comments and questions could be anticipated and answered. Some however were unusual. Like the comment of a priest who accompanied a party. On looking at the flames in the boiler he said: "Now I know what Hell is like". There was also the question from a young boy after being told about the conveyor belt that was suspended over Agecroft Road. "What goes on the suspender belt?" he asked.



A strangely rural perspective on Agecroft. appropriate choice. He had been Salford City Electrical Engineer and manager when the B station was being built by the Corporation in the mid 1940s. Mr Booth presented the Station Key to the chairman of the ceremony, Mr W C Parker, the CEGB's North Western regional director. The station superintendent was Mr J W Steeley, whose high standards were to set a pattern which continued throughout the difficult early years of the station.

The boiler plant had been designed to use coal from Moseley Common Colliery. But in September 1953 the National Coal Board gained consent to re-open the neighbouring Agecroft Colliery.

The original colliery, which had opened in the 1840s, had worked an area to the south of the Irwell Valley geological fault, a natural barrier to mining. Production ceased in 1932 and the site was abandoned until impending exhaustion of nearby collieries prompted the National Coal Board to seek replacement capacity. Test boring at Agecroft to the north of the fault revealed that there were recoverable reserves of 80 million tonnes.

With the decision to re-open the colliery, it became obvious that the station could reduce its costs by taking coal direct by conveyor belt rather than by rail.

Arrangements for receiving the additional coal required for C station had been made in the original design plans. These were modified to include the addition of: three coal conveyor belts linked by a further conveyor to a receiving hopper; a reinforced concrete bridge over Agecroft Road and an interconnecting conveyor between B and C station bunkers.

The system was commissioned in 1961 and with the existing coal plant gave five points of supply in addition to two coal stock receiving and reclaiming points. It was a case of perming any one from seven. One conveyor was reversible and perhaps it was fortunate that it was not the colliery supply conveyor. With such a flexible system it would have been possible for the colliery to have got their own coal back.

The first coal from the reopened colliery became available in August 1960 as C station was commissioning. The colliery was to provide much of the station's needs for the next 30 years despite difficult geological conditions which included dipping coal seams and major problems with water. It was said that miners travelling along the service road on their way to the coal face knew from the water leakage when they passed under the River Irwell. That may well have been an exaggeration but conditions in the pit did prompt comments such as "If you send down Joe Gormley (then Lancashire NUM Secretary) and take him on the top roadway he can swim out".

There were always close links between the pit and the power station and mutual regard and understanding for one another's problems. During the long coal strike of 1984 the colliery continued to produce and supply coal to the station so it could continue generating.

A number of station staff made trips down the mine and saw for themselves the difficult conditions. They were well treated but were not spared the rigors of diving on to moving conveyors and crawling along narrow faces at inclines of one in two. Reciprocal visits to the power station must have seemed rather tame to the colliery staff.

In the mid 1960s the colliery had some 1800 employees and coal output over a five-month period in 1965 reached 490,000 tons. Large quantities were supplied to undertakings and companies other than the Central Electricity Generating Board which had by now taken over from the Central Electricity Authority. This was the colliery's heyday. But even then coal faces could abruptly vanish and would have to be found again before output could continue. Normally two seams were worked but by the late 1980s severe faulting closed one. This and other constraints led to a decline in output and finally, in 1990, to closure.

Moisture was a problem when using coal from the station's stocking area — Manchester is not renowned for its dry climate. Jack Holden, the operations manager, remembering how domestic coal was normally kept dry in a coal shed, broached the idea of a large shed sufficient to contain dry coal for initial firing of the boilers. This would make boiler start-up easier and quicker, he said. A shed to contain 20,000 tonnes of coal was built and proved very successful. Technical problems that faced the station in the early years included failure of boiler tubes due to what was termed hydrogen embrittlement, a defect that many other stations of the same era experienced. It was not solved until improved boiler water treatment plant was installed and much of the pioneering work that lead to the solution was undertaken at Agecroft.

Another serious problem was cracking in the bolts and studs used in high temperature areas of the turbine and boiler. Removal of the studs was difficult and various methods were tried until Rick Longden, mechanical engineer, assisted by Terry Horsfield, welder, developed and made equipment that provided a solution.

One of the earlier techniques which did not succeed used a small explosive charge. Its trial was carefully planned: there was no danger to staff but they were warned that a loud bang would be heard. Unfortunately one man working in a confined space beneath the generator failed to get the warning though he was in no physical danger. The charge was ignited, the bang echoed around the turbine room. Some minutes later the man emerged from beneath the generator looking very shaken and made his way quickly to the washroom.

In those early years of operation C Station was one of Britain's ten most efficient power stations and ran continuously.

In 1968 with the collapse in high winds of cooling towers at another power station, Agecroft towers were assessed and classified. Numbers 3 and 4 cooling towers had to be strengthened by applying an extra skin of concrete, ranging in thickness from 9 inches to 4 inches up to a height of 230 feet.

In the mid 80s the wooden packing inside the towers was removed and a plastic pack fitted to improve performance. Throughout the 70s and 80s asbestos had become a major influence on both the operation and the maintenance of the plant. The laggers of those days — Jack (Max Bygraves — 'Let me tell you a story') Lewis and Bob (Dick Turpin — 'Held everyone up') Lawton — were always in demand.

Mr Mike Stanton became station manager in 1984. Although by then C station was 25 years





Open day delights

ABOVE: C station control room pulls 'em in

LEFT: These boys can't resist a bobcat

RIGHT: Daughter gets a dad's eye view of the world

OPPOSITE: The balloon is up



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old, he did not accept the view that it was in decline. To stop the now closed B station damaging morale he ordered its plant to be dismantled.

This action provided the impetus for improvement throughout the whole site.

Dismantling was not restricted to within the main building. Coal handling and dust handling plant were also included and any difficulties in operating nearby plant were anticipated and successfully avoided.

What was not anticipated was the necessity to remove fledglings from a kestrel's nest. The bird had nested 85 feet up on a coal conveyor tower and was incubating her eggs. Dismantling was delayed as long as possible but eventually Brian Hirst, assistant mechanical maintenance engineer who was experienced in the keeping and breeding of birds, was asked for advice. He contacted the Department of the Environment and was issued with a licence to take, incubate and release the birds into the wild.

Access to the nest did not present a problem since Great Manchester City fire teams regularly exercised at Agecroft. Six chicks were safely removed to be expertly reared with the help of a donation from station staff. Some months later all six were released to the wild, something that would not have happened naturally since normally the weakest of the brood does not survive.

Dismantling and refurbishment brought the station success in the CEGB's Good Housekeeping Competition. Agecroft gained second place — an astonishing achievement for a station of its age. After the competition and on a further occasion the station was opened to the public. Both these 'Open Weekends' were very successful, thanks to the enthusiasm of the staff.

With privatisation the 90s brought yet more organisational change for the electricity supply industry. The Central Electricity Generating Board was divided into four successor companies. Agecroft Power Station was allocated to National Power, the biggest of the generators, while the training centre in the old A station turbine hall was allocated to Nuclear Electric.

In later years the operating regime of the station was determined by two factors. One was that more efficient power stations were coming



on-stream. The other was the eventual reinforcement of the North Manchester distribution system removing the need for Agecroft to be available to support the local system at times of high demand.

Finally, on September 30, 1992 the closure of Agecroft Power station was announced, 59 years after electricity was first generated on the site. It was like the hearing of the death of a very elderly but much loved relative: the announcement may have been long expected but it was nonetheless very painful.

Chapter Five The staff at play

AGECROFT had an active sports and social club, founded in 1951 after the Generation and Construction Department was based on the station.

Initially sport was uppermost in the minds of the committee and since several of them were bowlers, bowls became the priority. A team was entered in the Salford Workshop Amateur Bowling League and they won the knockout competition at the first time of asking.

Keenly fought matches with local power stations were a marked contrast to the annual station handicap. An article written in the divisional newsletter Northern Lights by "Stripey", believed to be Stan Miller, sets the scene.

"The Bowling section of the club staged its annual handicap on Sunday 30 May (1954) at Prestwich Cricket Club ground, thirty members taking part. Twelve good bowlers and the rest not so good but we all had a dabble and enjoyed it,

Rafts raised the cash

THE annual Agecroft raft races, held on the River Irwell, were one of the attractions floated by the sports and social club.

The event started off in a small way with just a few rafts. But within three years thanks to the efforts of Brian Williams, Dave Bramley and the committee, it was attracting more than 40 rafts from local industry, clubs and pubs.

The designs were innovative and varied, some more successful than others but none would have been rated A1 at Lloyds. This was particular true of one vessel designed by Jeff Moss and built by a number of the station's maintenance fitters. The raft appeared to be constructed to withstand an Exocet missile and it took 20 people to lift it into the river. Nevertheless it was too buoyant. With one person on the raft and another person stepping on, it tipped - throwing the passenger off. The races finished at the Mark Addy pub in Manchester where entertainment was provided. In five years the event raised £5,000 which was given to children's wards at local hospitals.

even Teddy 'B' (Brandon) who had his last wood returned to him by a porter from Prestwich Station who found it on the rail line. One of the most fancied, Bill Berry, was soon eliminated and at least 3d changed hands over his defeat. There were several dark horses but they failed to stay the pace and all were out of it by the quarter finals. After tea the games took a note of keenness and the semi-finals and final were a treat to watch, all players being on scratch."

By 1955 the football team had improved to such an extent that it was accepted into the Manchester Amateur League in which it played for a number of years. Enthusiasm for football reached its height in 1972 when, in addition to the regular friendly matches and the Regional "Cooper Cup" Knockout Competition, the club joined the Bury Amateur League and the Salford Sunday League.

Cricket was played against other stations with some success but the needle match of the season was within the club and played between the Northern Project Group and the station.

During the late 50s and early 60s some success was achieved in angling. Bert Crocket won the North West Merseyside and North Wales Region President's Cup Competition on a number of occasions. The sport remained popular throughout the life of the club.

It was inevitable that all the popular social club sports such as snooker and darts would be introduced and eventually a rifle section was formed which used the range at the nearby Magnesium Electron Sports Club. Darts success came to the club over a number of years with George Fairhurst winning the North West Region "Briggs Cup" six times.



ABOVE: The sports and social club offered a wide range of activities — and other less active ones. Living it up at Morecambe in 1968: Alan Ainscow, Eddie Saul, Peter Hooton, Bill Gow and Bob Shepperd.

RIGHT: Another of the more active activities, a dance at the sports and social club



Snooker was always popular. During the early 70s a team was formed and in 1973/74 this team joined the Pendleton and District Snooker League. In 1972 a Park Drive snooker tournament was held in the station canteen between John Spencer and Alec (Hurricane) Higgins, both one-time world champions.

It was a complete success but had provoked much serious debate at a previous committee meeting. The question at issue: how much liquid refreshment should be ordered. After deliberating for some time the committee reached a decision: 150 gallons of mild and 150 gallons of bitter.

With the departure from Agecroft of Northern Project Group, it was decided to rename the club Agecroft Power Station Sports & Social Club and a sub-committee under the chairmanship of Bill Gow re-wrote the rules. When the Regional Training Centre was established, the staff were allowed to join as associate members.

From the 1960 up until the station closure, the Christmas events, children's parties, visits to pantomime, retired employees parties and the station Christmas dinners, were organised by the club committee members. Some served the club for many years. They included Bill Stubbs who

Medal for maintenance

DURING the 1980s there were incidents which had little to do with the generation of electricity but brought credit to the station. One resulted in a group of maintenance staff gaining an RSPCA Bronze Medal for saving a horse trapped in the canal. While it was a serious incident, it did have an amusing side.

The group were in the locker room, getting ready for work when they were told about the horse. They set off for the canal, collecting planks, ropes and straps on the way, to find the horse caught in reeds on the opposite bank, unable to move.

Peter Burke, who had come prepared with wellies, lowered himself into the water. He soon found himself up to his chest but he did get to the horse. Stuart Hopkins, a good swimmer joined him, as did John Allen. Derek Cook (Big D), jumped in and disappeared before eventually re-surfacing covered in reeds.

The next phase of the rescue was to secure the horse so as not to harm it. This did not prove easy. The lads on the towpath, comfortably clear of the flying hooves, shouted words of encouragement as straps were passed under the horse and fastened. Finally a line was secured to the horse and the bankside team — Ged Dutton, Charlie Burdaky and Bernie Ormrod — and the four in the water hauled the horse out. By this time the gypsies who owned the horse arrived to thank the rescuers. was chairman for 25 years. Towards the end of each year of office Bill would declare that he did not wish to stand again but was always persuaded to serve 'just another year'.

The following extract from the committee minutes of 9 May 1972 illustrates how active the club was at that time.

"Minute No 8: Nomination of Section Representatives. The Section Representatives were elected as follows: snooker, Mr B Jones; badminton, Mr J Lewis; table tennis, Mr J Lewis; darts, Mr B Duffy; shop, Mr L Winstanley; bowls, Mr R Nottingham; football, Mr E Fox; old tyme dancing, Mr D Bramley; modern dancing, Mr D Bramley; works outings, Mr B Smith; children's party, Mr G Fairhurst; children's outings, Mr W Stubbs; cricket, Mr B Smith; rifle, Mr R Hibbert; fishing, Mr R Hibbert; motoring, Mr L Winstanley; cabaret, R Coucill."

Trips to popular seaside resorts for days out were arranged — lady members and wives were not invited. The chauvinistic attitude of those days did not allow it. This was to change in later years.

Many other enterprises were begun in the early 1960s. These included the motoring section which organised the hiring of equipment and tools for car repairs. Trading in various goods at discounts proved popular. These member benefits continued throughout the life of the station. Gardening supplies were organised by Jean Peers, paint supplies by several members of the laboratory staff and the "Open All Hours Shop" run by Martin (Cat Weasel) McCawley.

In 1974 a number of club members suggested a trip abroad. The following year John Fellinger arranged a four-day holiday in Benidorm. This was to be the first of many popular holidays abroad, day trips in the UK, and theatre trips which in later years were run by Maureen Topping and other members of an active committee.

The success of the club can perhaps be measured by the enthusiasm that still remains and which is now being directed towards an Agecroft Retired Employees Association.







The children's parties were one of the very popular events staged by the sports and social club.

Above: young singers on the stage

Far left: everyone loves posing for the camera

Left: cowboys and Indians this year, not spacemen

For the technically minded

	A STATION	B STATION	C STATION
Gross Electrical Output per generator and per station	1 x 0.6 MW + 3 x 12.5 MW + 1 x 20 MW = 58.1	2 x 55.5 = 111 MW	2 x 124 MW = 248 MW
Generated voltage	6,600 Volts	33,000 Volts	13,800 Volts
Thermal efficiency	13%	26%	32.8%
Cooling towers			
Number	4	2	2
Construction	Timber	Reinforced concrete	Reinforced concrete
Height	- 60	312' — 95 mtr	312' — 95 mtr
Diameter at top		132' — 40.2 mtr	132' — 40.2 mtr
Water rate	1.2mil.gal/hr — 5.45 mil.ltr/hr	3.9 mil.gal/hr — 17.7 mil.ltr/hr	2.9 mil.gal/hr — 13.18 mil.ltr/hr
Chimney			
Height	- ////	365' — 11.25 mtr.	450' — 137.2 mtr.
Diameter at top	-	22' — 6.7 mtr.	22' — 6.7 mtr.
Construction	Steel	Brick	Brick
Boilers, number and capacity	6 x 65,000 lb/hr — 29,484 kg/hr 2 x 80,000 lb/hr — 36,288 kg/hr	4 x 315,000 1b/hr — 143,000 kg/hr	2 x 860,000 1b/hr — 390,000 kg/hr
Outlet steam pressure	325 p.s.i.g — 22.6 bar	630 p.s.i.g. — 43.9 bar	1,600 p.s.i.g. — 111.4 bar
Outlet steam temperature	720°F — 382.2°C	865°F — 462.8°C	1,010°F — 543.3°C
Combustion Equipment			
Туре	Travelling chain grate	Pulverised fuel firing	Pulverised fuel firing
No. of pulverising mills per boiler	-	3	5
Capacity per pulverising mill		7.4 tonnes/hr	15 tonnes/hr
Maximum coal consumption	-	9.750 tonnes/week	16,760 tonnes/week
Coal stock capacity		37,000 tonnes	263,000 tonnes
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