

History of the Kidsgrove Works

Nelson Industrial Estate

Part 1 - English Electric - GEC -Cegelec - ALSTOM

Part 2 - ICL - D2D - Celestica

LOCAL HISTORY REFERENCE MATERIAL

KIDSGROVE - STAFFORDSHIRE

Introduction

The year 2002 marks the 50th anniversary of 'Nelson Industrial Estate' at Kidsgrove, Staffordshire. The first industrial building for electrical engineering on West Avenue was the 'main works' of The English Electric Co. with construction work starting in 1952. Over the next five decades the rest of the estate evolved making the site the biggest employer in the local area.

In its heyday in the 1980's the estate employed over 4,000 people and supported many more jobs in Staffordshire as suppliers and sub-contractors.



Following the recession and mergers of the 1990s much of the site is now disused and will be undergoing inevitable re-development which will change the face of West Avenue completely. This book sets out to record the history and development of the site using archive material rescued during various moves and building closures so as to preserve it for the future.

Thanks to all those who have handed in old photographs and other material which has made this document possible.

Mark Woods

The Beginning 1952

At the start of the 1950's the Industrial Electronics Department of English Electric at Stafford (Siemens Works) was expanding and looking for a new home. ¹

¹ During the war electronics had developed at Stafford for naval gun control systems. After the war the Chief Engineer Mr Sloane did not want to

Empty land was available off Linley Road (A5011) in the district known as Butt Lane in Talke, Staffordshire. The nearest town to this site was Kidsgrove and henceforth the site was referred to as Kidsgrove Works.

Building work started in 1952 under the supervision of the architects 'Douglas J Oliver' of Mathews St. Rugby. The supervision from English Electric came from Mr TA Eccles. Chief of New Development and Process based in EEC, Stafford.

The majority of the land was owned by Kidsgrove Urban District Council and was largely empty fields



with some small farms, one of which was owned by a Mr Delves who eventually sold up. (Between 1890 - 1934 some of the land was used for coal mining as the Old Butt Lane Colliery). Some industry already existed on the site namely GH Heath of Macclesfield - a nylon mill (closed 1988) and an old aluminium works - Thomson Bros. of Birmingham.

The programme of work called for site huts to be erected by 25th August 1952 and excavations to start 8th September.

During the same period a new road was built linking Linley Road to old Butt Lane. The road became West Avenue and was built by the

Building of Bay 3 - late 1950's



council at a cost of £17,000.

pursue it and eventually the work came to Kidsgrove.

The original land acquired was 14.8 acres and after tough negotiations a price of £8,000 was agreed! (This had been reduced from the original asking price of some £23,000!). Much of the construction of the main works had taken place before the land was officially purchased with the agreement of the council. The sale was finalised around February 1953.

The main works comprised the basement and what became known as bays one and two. The total cost of this work was £222,500.

The work was not without its problems. In order to complete on time overtime to the tune of £10,000 had to be authorised.

The steel used in the girders could not be supplied without written permission from the Admiralty in London due to the Iron and Steel Regulations introduced by the Ministry of Supply!

Eventually all these difficulties were overcome and parts of the works started to come on line during 1954.

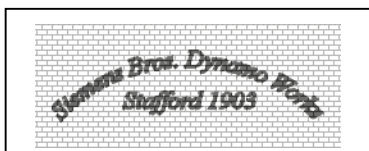
English Electric at Kidsgrove was born.

German Roots



Werner von Siemens had established Siemens & Halske in Berlin in 1847 and his brother - Wilhelm Siemens (1823-1883) ran the English operation eventually setting up the Siemens Brothers factory at Stafford in 1903. In 1918 English Electric was formed and absorbed Siemens Bros. into it.

George Horatio NELSON became Managing Director of English Electric in 1930, aged 43. He had previously been the manager of the Metrovick Works in Sheffield.



At the time it was thought that English Electric would not survive as it had old machinery in most of its factories.

During the 1930's the main products included steam turbines, generators, switchgear, transformers, electric and diesel locomotives, trams, ships and steel rolling mills.

As the Second World War approached the company moved into aircraft production and prospered.

By the end of the war George Nelson had made English Electric one of the largest and most successful engineering firms in the country. He was later knighted for his services and became Lord Nelson.



Lord Nelson with Chief of Air Staff Sir Dermot Boyle at the launch of the **English Electric Lightning** fighter plane 23 October 1958.

The site on West Avenue was named NELSON INDUSTRIAL ESTATE after Lord Nelson.

Activity at Kidsgrove in the 1950's

Activity at Kidsgrove was quite diverse ranging from the design and manufacture of portable instruments to control gear and systems - primarily for the steel industry.

The computer age had just begun and English Electric started to design and make digital and analogue computer systems called 'DEUCE' and 'LACE'.

Two parallel divisions emerged - one concentrating on industrial control applications called the Control Gear Division

and the other specialising in computers called the Data Processing Division².

To support these businesses the site had a range of shared services including a sheet metal shop, machine shop and coil winding section to make transformers and magamps.

1953-55

On completion of Bays 1&2, work on an MoD radar project, codenamed "Postal", was transferred from temporary premises at a chapel in Thomas Street, Talke to Bay 2. The design and manufacture of a range of RF induction and dielectric heaters with ratings up to 5kW was transferred from Stafford to Bay 1. Several laboratories and offices were set up in each bay dealing with development and design of electronic instrumentation equipment, peripherals for DEUCE and magnetic amplifiers ("magamps").

1954-58

With the increasing need for manufacturing space, parts of the hill to the east of Bays 1&2 was cut away, exposing some old mine workings and enabling Bays 4&5 to be built, with a gap between the two sets of bays.

Sometime later Bay 3 was fitted into the gap, not without some difficulty, as the two sets of bays were not exactly parallel to each other!

Bay 3 was built to accommodate a test facility for DEUCE mainframes and special ventilation ducting was needed to deal with the several kW of heat that each generated. About five mainframes could be accommodated at a time.

During this period, what was known as "Valves & Seals" was transferred from Rectifier Division, Stafford to Bay 1 and ultimately to the basement. This was a production unit only, with engineering responsibility remaining at Stafford. The

"Valves" were small simple anode mercury arc rectifiers, the majority being ignitrons, whose most important use was for spot welding equipment. Much attention had to be paid to the perfection of the special "Seals" between the glass envelope and the external electrical connections.

German V2 Rockets and MagAmps

During the war, the Germans had launched hundreds of deadly **V2** rockets on England. Part of the guidance and control system in V2s used the pioneering technology of 'magnetic amplifiers' for servo control of the stabilising fins. This



technology was adapted and developed in the 1950's for use in control. Magnetic amplifiers were the workhorses for power control of a variety of system applications, predominantly in steel rolling mills and other

"continuous" processes. They usually controlled the fields of DC machines in Ward Leonard and similar systems, and to achieve faster response and smaller size were usually designed to operate from 400Hz supplies in ratings up to 2kW, being accommodated in withdrawable chassis fitted into control cubicles. These occupied much of the manufacturing space in the earlier years.

The main 'magamp' toroidally wound components used for control systems were designed as epoxy resin encapsulated units of some complexity and considerable space was required for their manufacture.

The actual coilwinding for these and for transformers was done in different

² Later named DP&CSD - Data Processing and Controls Systems Division

locations over the years, at one time in the basement of Bays 1&2, with special facilities for resin encapsulation in one of the newer bays.

Hundreds of magamps of this type were manufactured during this period.

A considerable number of 'magamps' designed for 50Hz supplies in ratings 0.5-50kW were used for voltage control of DC motor armatures in 'stand-alone' drives.

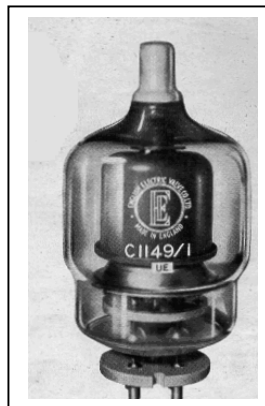
As these were of a simpler design, usually with only one or two control windings, it was usually not necessary to consider "potting" them.

One of the key design engineers on Magamps was Mr John Pepper (below), who was Chief Engineer at Kidsgrove for many years and who has contributed to this, and other sections of the booklet.

1957

Investigation into the use of thyristors for power control commenced and it was soon apparent that thyristor amplifiers (converters) would signify the demise of magnetic amplifiers, at a rate depending on the development and availability of higher voltage and current capability of the thyristors themselves.

Some of the control advantages would be lost and control system technology would need to be modified. This would be facilitated by the introduction of transistor operational amplifiers such as CA3/CA4, as envisaged at that time.



An English Electric Valve (made at Chelmsford). This valve was rated at 300kW and was used in radar modulators. (type C1149/1 Pulse Tetrode)

Analogue Computers

During the war, secret development work had taken place in the English Electric Guided Missiles Division at Luton on analogue computer designs. These machines were based on thermionic valve technology and were aimed at military applications.³

The machine to come out of this development was code-named **LACE** which stands for Luton Analogue Computing Engine.

Production of the **LACE** was transferred to Kidsgrove in 1954 but the range was short lived due to the dominance of digital computers which are covered in detail later. The Luton factory was closed and was relocated to Stevenage - later to become ICL.

GH Heath - the nylon mill which was located at the southern end of the estate. This was closed in 1988.



³ based on $\pm 100V$ valve op amps

Expansion of the Site

Major building work continued throughout the 1950s and did not finish until the end of the 1980's. (The last building to be built was N Block in 1988).

More land was acquired in 1954 including the area on the opposite side of West Avenue which became the computer factory. Also a small section of high wooded ground near what was to become the sports pavilion was bought. This land was purchased in anticipation that the firm would move into radar equipment and would use the land for the siting of aerials. (This never came about). In 1955 work commenced on the new Bay 3 to accommodate the expanding company.

In June of 1958 an order was placed with Taylor Woodrow for construction of the new canteen block. The cost was £48,000.

Expansion and Growth in the 1960's

The start of the 1960's found English Electric becoming short of space and buildings. The workforce had increased from a few hundred in 1954 to 2,000 in September 1961. During 1958-59 a number of temporary wooden huts had been installed at the back of Bay 5 (These were technically called Pratten Buildings but would always be referred to as the 'huts'). Planning permission for the huts was given and was due to expire in December 1961. In practice these temporary huts continued to be used for the next 30 years!

The first huts to be built were called A,B,C and D blocks. They housed a total of 224 people.

Westfields

In May 1961 the Chairman gave the go ahead for the construction of new buildings on the west side of the road - "Westfields". These new buildings, comprising of workshops and an office block, were to house the growing computer business which eventually became ICL. Some six acres of land had been purchased at a cost of £2,000/acre. Building started in July 1961 and was scheduled for completion by the summer/autumn of 1962. The factory part was modelled on the St.Albans works of

Marconi Instruments Ltd which had been built by the firm Octavius Atkinson. The budget costs were £311,000 for the factory and £94,000 for the office block.

From 1963 a new company was formed called English Electric Leo Computers Ltd. In 1964 the computer interests of Marconi were acquired to form English Electric-Leo-Marconi Computers Ltd - quite a mouthful. This new company existed along side the traditional Control Gear Division of English Electric in the Kidsgrove works - now on both sides of the road.

Northfields

Both companies prospered to such an extent that more land and buildings were required. In 1965 employee numbers had risen to 2,700.

In May 1966 a specification was drawn up for the construction of a four-storey office block to be located at the northern end of the site. This was to become Northfields.

The contract - worth over £210,000 - was awarded to Taylor Woodrow and the Chief Architect was Mr RG Pickering. Work commenced in July 1966 and was scheduled for completion in April 1967.



The Transistor Age

During the 1960's transistor circuits became increasingly popular and printed circuit board production began in earnest at Kidsgrove.

Transistors started to take the place of valves, relays and electromechanical sequencers.

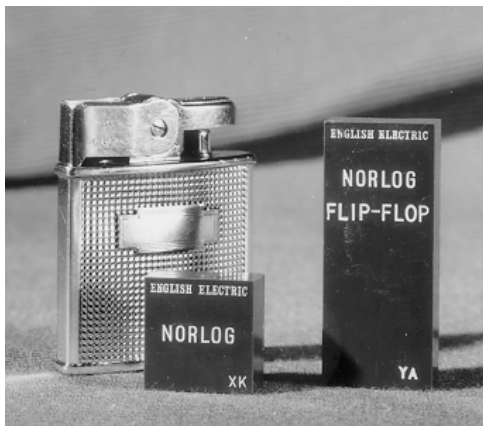


The expertise in logic circuits developed by the computer division could be migrated to the control gear division and by the mid 1960's the NORLOG range of logic blocks was in widespread use. Each NORLOG block contained transistors, diodes and resistors and carried out basic computer logic functions such as AND and OR gates and FLIP-FLOPS.⁴

In parallel with this a range of analogue Operational Amplifiers was designed and manufactured with names such as CA3 and CA4. These were fitted into UNISTAT modules which were plugged into a subrack or 'bin'.

These circuits provided the control functions in Automatic Voltage Regulators (AVRs) and in thyristor drive units.

This type of modular concept lead to standardisation of the basic system building blocks and reduced engineering costs on contracts.



Computer History at Kidsgrove

The introduction to the English Electric Employees Handbook from 1970 mentions that the factory-produced computers known as DEUCE and LACE.

These names are now long forgotten by many, but what exactly were the first computers like and how did they come about?

The first computer made at Kidsgrove can be traced back to the days of the Second World War at the code breakers at Bletchley Park

Early Computer Development



Dr Alan Turing was responsible for developing the world's first electronic computer during world war two. The machine, known as Colossus was used to crack the top-secret German code

produced by the Lorenz cipher machine. (Lorenz was a far more advanced version of the famous Enigma cipher machine).

At the end of the war the Colossus machine was destroyed on the orders of Winston Churchill.

In 1946 the National Physical Laboratory proposed the manufacture of a new computer and the Turing team was engaged on its design.

The machine would be called ACE - which stood for Automatic Computing Engine.

Following the success of ACE it was realised that reliability and performance could only be enhanced by collaboration with industry. In 1949 the National Physical Laboratory proposed that the English Electric Company was the natural choice for an industrial partner. The new computer project was to be called DEUCE and would be built at Kidsgrove.

⁴ The original Norlog was developed at EE Whetstone for the Wylfa Power Station on Anglesey.

The English Electric DEUCE computer

DEUCE stands for "Digital Electronic Universal Computing Engine"

DEUCE had two levels of storage, much as in modern machines. The high-speed storage was a set of mercury delay lines of varying sizes. These are tubes containing mercury, into which a stream of sonic pulses representing each bit is injected by a transducer at one end. A microphone at the other end received the pulses a few milliseconds later, and they were then processed and modified if needed, squared up, and fed back into the transmitting transducer. Data could thus be recycled indefinitely. These delay lines were the forerunner of core memory, which had not yet appeared.

The second storage level was more similar to modern devices - a magnetic drum not unlike



DEUCE

a present-day disk. Capacity was less however being 48K 32-bit words - around 200 kb in modern terms.

The other devices were a card reader and a punch. There were no magnetic tapes and all programs were loaded stand-alone from cards.

The machine did not have an operating system in the modern sense. There were two primitive languages; Alphacode and Easicode.

The English Electric KDF9 Computer

The English Electric KDF9 was in use from about 1963, and was regarded as a very successful machine. It was one of the first machines to have a full pre-emptive operating system. It also had floating point capability, using a 48-bit word, which provided good numerical precision. The KDF9 also provided double-length floating point instructions, using 96 bit numbers.

Basic features

The KDF9 had up to 32 kilobytes (not megabytes!) of core memory (made up of real magnetic core). There were no disks; backing storage was provided by magnetic tape units that could be partially rewound and selectively overwritten, provided the programmer was very careful.

The operating system, known as "Director" was very sophisticated for its time.

English Electric Computers Made at Kidsgrove

Model	Date of Introduction
LACE	1954
DEUCE 2/2a	1955 - 1957
KDP10 (RCA 501)	Aug 1962
KDN2	Sept 1962
KDF9	Apr 1963
KDF6	Sept 1963
KDF8	Oct 1964
KDF7	1965
System 4/10	Jan 1967
System 4/30	Mar 1967
System 4/50	Sept 1967
System 4/70	Dec 1967
M2112	1968
M2140	1968



KDF 9

The Price of Electronics

In the 1960s the price of electronics was very high compared to today. The CA4 Operational Amplifier in 1964 was priced at £9. 10s which represented a weeks wages for some people at the time. Today, similar functions can be achieved with a chip costing under £1 so in real terms around 200 times less expensive.



The GEC Era

In the late 1960s, the British electrical industry underwent a revolution as GEC acquired Associated Electrical Industries (AEI) in 1967, which encompassed Metropolitan-Vickers, BTH, Edison Swan, Siemens Bros., Hotpoint and W.T. Henley.

Then in 1968, GEC merged with English Electric, incorporating Elliott Bros., The Marconi Company, Ruston and Hornsby, Stephenson, Hawthorn & Vulcan Foundry, Willans and Robinson and Dick Kerr. The era of English Electric was over and the new era as GEC began. Sir Arnold Weinstock was Managing Director and Lord Nelson was Chairman. The new company was called GEC-Elliott Automation Ltd and Kidsgrove was GEC-Elliott Industrial Controls Division.

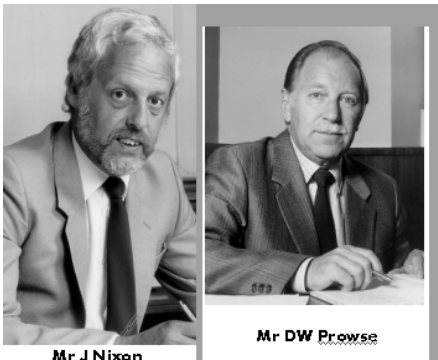
The GEC era represented the longest period of stability for the company and would last for 21 years.⁵

At the same time as the merger the computer part of the company (English Electric Leo-Marconi Computers) was sold off to become International Computers Ltd or ICL.

Stability and Steady Growth -The 1970's

With the coming of the 1970's the company laid the foundations that were establish a stable period that would last for more than 20 years.

Two men set the company direction for this



Mr J Nixon

Mr DW Prowse

5

Kidsgrove came very close to closure in 1969/70 as GEC wanted to move everything to Rugby. Only the strong arguments of Mr George Spratt (Head of EE ICA) kept Kidsgrove open.

period - Mr Don Prowse as Managing Director and Mr John Nixon as Director and General Manager.

The company established itself into product divisions:

- * Low Voltage Motor Control Centres
- * Drives and Machine Tool Products
- * Drives Systems
- * Standard Control Products

Each of these trading divisions shared the common resources of the factory such as Assembly and Wiring, Printed Circuit Boards, Coilwinding, the Paint Shop and so forth.

The Quality Control Department employed nearly 200 inspectors and testers and was an independent function reporting to the General Manager.

Southfields

The Southfields factory building provided feeder services such as sheet metal for the computer business. With the formation of ICL as a separate company in 1968 these functions were moved across the road leaving Southfields empty.

In 1973 GEC Radio and Television moved from the main bays into Southfields factory and offices. There they produced radios, music centres such as the 5020 and a wide range of other products including Red Ring showers and controllers for pelican crossings.

In 1978 Radio and TV closed down and shortly after GEC-Marconi Space and Defence Systems occupied Southfields building. Security for the site was tightened up due to the nature of the defence contracts.

Around this time the "Elliot" part of the name was dropped and the company became GEC Industrial Controls.

The Microprocessor Revolution 1980's

The decade of the 80's was dominated by the widespread application of microprocessors and in particular GEM80.

GEM80 was (and still is!) a range of Programmable Logic Controllers (PLCs) powered by the INTEL range of microprocessors such as the 8085. It was a joint development between Kidsgrove and Rugby⁶ and at its launch in May 1979 was years ahead of the competition. It had built in serial communications and an integral video graphics system.

GEM80's success was down to first class hardware, user friendly software with built in special functions combined with dynamic marketing from the new management team of Brian Pope (Division Manager) and Berkeley Fenn (Product Manager).

Brian Pope - GEM80
Divisional Manager



Berkeley Fenn - GEM80
Product Manager



Pope and Fenn took the GEM80 into all industrial sectors including the motor industry (Ford, Leyland, etc), Petrochemicals, Steel making, food (Cadburys) and great inroads were made into export markets both in Europe and the USA.

To illustrate the rise of GEM80 sales went from virtually zero in 1979 to more than £8,000,000 by 1984! These sales rivalled the traditional activities of LV and Drives. At the end of the decade total sales for GEC Kidsgrove were £65 million with 1400 people employed.

⁶ Originally many firms were involved in specifying a common PLC for all of GEC including GEC Computers, Process Control Leicester and Process Instruments Lewisham. They all pulled out leaving Kidsgrove and Rugby to complete the project.

Major Investment and New Technology in the 1980's

The first half of the 80's saw the microprocessor being put to use in other products.

In 1984 the GEMDRIVE MICRO was introduced which was the company's first processor based DC drive offering full digital control and serial communications.

Even Standard Control Products got in on the act with the introduction of the MICROGEM small PLC in 1985 that was sold in the same way as push buttons and lamps.

The year of 1984 represented a major investment period for the company with capital spend running into several millions.

In February the Computer Aided Design room came on line in the ground floor of Northfields building.

In December 1984 the company set up the Hybrid Circuits manufacturing plant (at the back of the canteen block).

This facility produced miniature circuit modules to be used on a variety of drives and PLC boards. The area was used the concept of clean rooms and operators wore full overalls, hats, etc to exclude dust. Steve Beattie and Gary Jones ran the plant.

1984 saw the first real progress with the new surface mount technology that is now standard for PCBs. The first board to benefit from this was the MPR2 protection relay - an SCP product.



Early GEM80 kit - 200 series controller (with 8k RAM boards!), Simulation Panel and 8920 Portable Programmer. Programme data was stored on audio cassette prior to disks and PCs.

Training and Development

Following the installation of the new hybrid facility in the canteen block the training department was re-located to mezzanine floor at the north end of Bay 1 in the main works. The training department was run by Peter Errett with Alan Bartram as Education and Training Officer and Ted Tomkins as Instructor.

The company had a long tradition of recruitment and development of young people. Each year around a dozen technician apprentices would be recruited from local schools and would go on to HNC/HND courses. The practical aspects of the training were regulated by the Engineering Industry Training Board or EITB. Many of these technicians would go on to become senior managers and engineers within the company such as Norman Stubbs and Ken Walters (Division Managers of Drives and LV respectively).

Undergraduates were sponsored by GEC and spent vacation periods undergoing practical training. Graduates were recruited from the University 'milk round' and would provide the foundations for future development and applications engineers. The company purchased Newcroft House near the works in 1981 to use as student accommodation.

The 1980s saw the establishment of the Youth Training Scheme (YTS) by the government. Around ten YTS trainees were set on each year and trained for clerical and technical careers.

This meant that at any one time around 70 trainees were 'on the books' ensuring that future vacancies could be easily filled by trained people.

The company also provided training and development for the rest of the workforce both by in house courses and lectures and by providing funding for college courses. Many people attended customised courses at the GEC Management College at Dunchurch near Rugby.

At the start of the eighties George Taylor took over from Jeff Tether as Personnel Manager. After he retired a few years later he was replaced by Neil Roberts. During this time Ted Johnson was Assistant Personnel Manager.

The later half of the eighties decade saw several key changes in the company. Brian Pope - Divisional Manager GEM80 moved to EMICC in Detroit to promote GEM80 in the USA and Canada. David Slingsby took over the Division.

In March 1985 the company, in association with Simon Carves Ltd, signed the Yerevan Contract. This was the biggest contract that the company had won with and involved the building of a new factory in Yerevan, Armenia to manufacture GEM80 products for the Soviet market.

A new Division was created for this originally managed by Alan Jutton.

Yet another new Division was created in 1988. It was called CAPS - Control and Process Automation - and provided systems engineering for GEM80 projects such as paint plants at Fords and Steel making in Sidmar, Belgium. Derek Spencer managed CAPS Division.

Service Functions in the 70s - 80's

Mail Room

At its height there were four full time staff in the mailroom. These were the days before e-mail and faxes had not been out for too long. Therefore written, paper communication was all-important and a vast amount of letters and memos had to be delivered and collected to all sections each day. Mail staff started early in order to have letters available at the start of work.

The mailroom staff included John Jones, John Neild, Bill Lally and Tom Smith.

Maintenance

In order to keep the vast site running the company had a large maintenance department that was virtually self-sufficient.

The works engineer was **Geoff Shenton** and under him were various foreman and charge-hands for the different functions such as electricians and mechanical fitters.

Geoff had engineered and implemented most of the major site moves and expansion from



the late 1950s right up to the mid 1990s. The following functions existed in maintenance:- electrical workshops, mechanical workshops including a machine shop and welding area, a joinery department, a team of painters and the works garage. The maintenance department purchased its own materials and had a vast store of spare parts. It also maintained its own drawings and technical specifications via the Technical Clerk (Tony Stanyer). In order to look after the 34 acre grounds the company even had three small tractor-mowers at one period for cutting the grass on the sports fields.

Canteen

During the 1980's the canteen was catering for over 1000 people in shifts. In addition to the main areas there were also a number of specialist dining rooms. Managers could eat in the Blue Room with a waitress service, the Directors had their own dining room and there was also a Visitor's Dining Room which was used for entertaining the many customers that were visiting Kidsgrove. Linda Daley was the manager of the canteen during this period. The canteen were also responsible for looking after the many food vending machines on site and also provided a 'toast round' in the mornings.

Documents

The company generated and used tens of thousands of documents each year. Letters, memos, reports and similar documents were produced in the Typing Pool. The typing Pool

originally used mechanical typewriters and carbon paper for copies. In the late 1970's specialist electronic word processors were purchased (made by Wang). By 1990 - due to the introduction of the office PC - the services of the Typing Pool were no longer required and the function closed. For many years the company's typewriters were serviced by the local firm OES based in Tunstall which made weekly service visits to the firms 90+ machines. Again, the growth of PCs eventually replaced all typewriters and OES are no longer in business.

More technical documentation was produced by the Technical Manuals section, part of the Standards Department which included such functions as Graphic Design and the company library which employed a full time librarian.

YTS Trainees

The company provided a two year training programme consisting of 13 week blocks in different departments such as Marketing, Typing Pool, Personnel, Standards, Production Control etc.

At the time the YTS scheme generally had a bad name in the UK however the employment rate for GEC YTS was 87%.

The Works Garage

The company has always operated its own works garage from the 1950's. The main aim of the garage was to service and repair the works cars and vans but garage staff also acted as chauffeurs when required.

In the 1960's Mr George Hackney was the Transport Manager for English Electric and Fred Crowther was the Garage Foreman. David Buckley joined GEC in 1972 as a motor mechanic followed a year later by Dave Carter as Apprentice Mechanic.

In 1980 Fred Crowther retired and his son, Graham Crowther took over.

During the 1980's the garage was very busy servicing the cars of both Cegelec and GEC-Alsthom as well as continuing with chauffeuring duties, valeting and so on.

In 1992 major redundancies were announced and it was decided that the company could no longer afford its own garage and mechanics. The garage staff were made redundant but David Buckley and Dave Carter were given the chance of setting up as a private garage using the same premises and facilities. They accepted this offer and Eastfield Garage was born. Being a private firm Eastfield could now service private as well as company vehicles.

This situation continued until 2001 and the garage prospered as they took on more and more private customers.

By 2001 the works land and buildings now belonged to a separate property division of the parent company. New rent and leasing conditions were proposed that were not acceptable to Eastfield. As a result Eastfield Garage closed in mid April 2001.



The End of the Decade and the End of GEC at Kidsgrove

1989 marked the start of the biggest series of changes to effect the site since 1968.

It was announced that a new company would be formed which was jointly owned by GEC (22%) and the large French company CGE (78%). The new company would be called CEGELEC and would have 27,000 employees world-wide.

In December 1989 a new Managing Director took over at Kidsgrove from Don Prowse - Mr John Seed.

Mr Seed had come from GEC PIC at New Parks, Leicester and set about to adapt the

company to suit its new Anglo-French ownership.

At the start of 1990 John Nixon left the company.

Recession, Decline and Downsizing 1990's

Just as the 80's had been the boom years for the company, the 90's were to swing the fully the other way with devastating effects on the workforce.

The UK had started a recession and major companies like steel, mining and the car industry were hitting hard times and not spending. The company's order book fell severely and in May of 1990 some 85 redundancies were announced. Many of the company's senior management lost their jobs as the company re-structured to survive the coming years with a much reduced business level.

Two years later, in 1992, the situation had not improved and at the start of the year a further 90 job losses were announced. As sales continued to fall it became clear that the company could not afford to employ the 1200 people it had. Around March a massive 250 job losses were announced effecting all areas of business.

In the second half of 92 another major change was announced. The Low Voltage Control Gear Division and SCP were to be transferred to GEC-Alsthom which had recently been established.

Some 400 people were identified as working in LV or SCP related activities but in the end only 320 were required which lead to a further 95 job losses.

By 1993 the Kidsgrove workforce was down to around 700 people - less than half the workforce of 1989.

The reduced numbers on site meant that rationalisation of buildings was needed in order to cut costs. By January of 1993

Northfields office block was finally emptied having being in use for 27 years. Likewise, the old huts were emptied and the original huts A,B,C and D were demolished. The SCP functions such as coilwinding and assembly moved into Bays 3 and 4 and the Yervan Team (which had been in Huts G and F) moved the Southfields Office block (which had been empty since Marconi closed in 1985).

Electronics manufacturing moved from Bay 5 in the old main works to the new Southfields Factory.

Bay 5 was converted to offices for the LV Division (now called GALVE - GEC Alsthom Low Voltage Equipment).

The SCP business was moved to Liverpool and the coilwinding activity was ceased in favour of bought in transformers.

The key words of the decade were "core activities" and everything that was not "core" was to be purchased. Traditional production and quality methods were scrutinised and changed. Full 100% inspection of components was replaced by 'green route' initiatives where the supplier did the checking. Independent inspection was replaced by self-inspection and the test empire was dismantled in favour of test being integrated as part of the production team (or cell).

New Technical Developments

In 1993 a brand new computer system came on line called MFG PRO. This was a totally integrated system that went from order processing right to shipping and invoicing. It replaced many of the separate VAX/IMS systems in use.

The first half of the decade also saw the launch of two new AC drive ranges - the GD2000 and GD4000 products.



The Kidsgrove Works in 2000

In 1999 Cegelec had become part of ALSTOM - a new company listed on the stock market that included most of the old Cegelec companies and many of the GEC-Alsthom companies.

Further job losses in 1999 had reduced the ALSTOM workforce to 186 people with a turnover of around £14M based in the Southfields building.

By 2000 part of the main bays had been leased to a pharmaceutical distributor and the canteen block was being emptied ready for partial occupation by a Diamond Electronics Ltd.

Northfields, N Block and the remains of Huts F-K remained empty.

Across the road ICL had changed from being a computer company to a sub-contract electronics manufacturer first as D2D and then as Celestica. The company prospered due to the boom in mobile phones and communications equipment and had a workforce of more than 2,000.

At its peak - around 1988 - the total workforce employed on electrical work was nearly 4,000 split between ICL and GEC. Today's total numbers represent well under half of the original size.

The Future

The development of the Kidsgrove site has largely followed trends in Britain in other industries.

The downturn in traditional UK activities such as steel making, shipbuilding, mining, heavy engineering and the car industry has been mirrored in the requirements for large electrical engineering works such as the old English Electric factory. Also the changes in technology since 1954 have seen many jobs become obsolete to be replaced by CAD, electronic stock control/purchasing etc (consider Telex Operators, Wages Clerks, traditional draughtsmen, typists and so on). Low cost labour from the far east has also led to many more products being made outside

the UK thus further reducing the manufacturing base.

It is likely that the northern and central parts of the site will end up with a collection of smaller businesses using the various premises or maybe new, custom built units will be created. The eastern side of the site may well evolve into housing or recreational use.

In September 2001 Celestica (ex-ICL) announced large scale job cuts at the Kidsgrove and other sites. This was blamed largely on the downturn in the communications/mobile phone industry.

With economists declaring a recession in the manufacturing industry the future was looking uncertain for all the companies on the old Nelson Industrial Estate.



The manufacture of high speed line printers - English Electric, Kidsgrove in 1968.
This would be on the Westfields side.

**ENGLISH
ELECTRIC**



M2140

**A low cost multi-processor
for computation and control**



Below - full system M2140 - capacity of 65k instructions with 15 processors.
Joined end to end this computer would be 32 feet long! The same functions can now be housed on a wristwatch.



**the KDF9 computer
Bureau at English
Electric Kidsgrove
around 1964**

2002 Update

By the middle of 2002 prospects were looking mixed for the companies on the Nelson Industrial Estate. Celestica (ex-ICL) announced poor results and were considering some 500 job losses on top of the ones lost in 2001.

However on the other side of West Avenue things were looking good for ALSTOM.

The drives sales function had returned from Rugby allowing once again the company to offer a complete range of products and services to its customers.

Turnover on the site was in the order of £15M with a healthy contribution to ALSTOM's profit of more than £1.5M each year.

Large drives were being sold around the world from Brazil to the Czech Republic. In particular the company's MV3000 AEM (active energy management) drives were world leaders for their power and voltage ratings.

On the PLC side, 2002 saw the launch of a brand new Programmable Controller - the GEM80-500. This new PLC had been conceived, designed and built at Kidsgrove and continued the 20-year tradition of GEM80 products.

During this time the parent company ALSTOM was in need of cash and the Kidsgrove factory was providing more than its fair share putting it in a strong position. New investments started to be made in the infrastructure such as new carpets, new washroom facilities and a new coat of paint both inside and out. On the production side investments were being considered for new test gear in order for Kidsgrove to meet the expected demand for DELTA power modules resulting from significant new contracts being won in the USA and Europe. The productivity and efficiency rate was now higher than it had ever been. (in the 1980's sales were around £36k/person compared to 2002's figure of £88k/person.)

On a national level the financial news of the time carried tales of the final downfall of the Marconi Company. Marconi had changed its name from GEC and had seen its shares fall from more than £12 to 2 p. The once mighty GEC had virtually been destroyed. It is somewhat ironic that the same year saw the death of Lord Winestock who had been at the helm of GEC from the 1960's. He was gone and so was the empire he had built up.

What had happened - in simple terms - was that in the 1990's GEC had sold off all of its heavy engineering capability (transport, power, transmission, etc) to ALSTOM. This left it with telecommunications which then proceeded to hit a severe recession from which it could not recover.

The future is always uncertain but ALSTOM at Kidsgrove is in a strong position to face that future as it enters the next 50 years.

Then and Now...

In 1945 English Electric employed 29,000 people in the UK making trains, ships, transformers, generators and control gear.

In 2002 ALSTOM has 13,000 employees in the UK working on similar products.



Chronology of Events

- 1952 Building work starts on Bays 1 and 2 of the main works
- 1954 Bays 1 and 2 are occupied and production begins
- 1954 More land purchased for Westfields and high ground behind bays
- 1956-9 Bays 4 and 5 constructed
- 1957-8 Canteen block built
- 1958-9 Huts A B C and D erected behind Bay 5
- 1961-6 Canteen block extended
- 1963 Leo Computers joined EE to become English Electric Leo Computers
- 1964 Marconi Computers joined EE to become English Electric Leo Marconi Computers
- 1966 England wins world cup
- 1966 Northfields Office Block built
- 1967 GEC acquires AEI group
- 1968 Plessey attempts takeover of EE (22nd July) causing EE to start talks with GEC.
- 1968 GEC and English Electric Merge (effective 30 Nov 1968) New company at Kidsgrove is initially called English Electric-AEI Industrial Controls
- 1968 Computer operations separated from EE to form ICL
- 1969 End of 1969 the name becomes GEC-Elliot
- 1973 GEC Radio and Television move into Southfields
- 1978 New Social Club opened by Mr Jansen in canteen block
- 1978 GEC Radio and Television closes
- 1978 Marconi Space and Defence occupies Southfields
- 1979 GEM80 launched
- 1984 CAD in Northfields, Hybrids in canteen block
- 1985 Marconi closes
- 1989 GEC becomes CEGELEC
- 1990 Redundancies due to recession 85 people - 2nd May
- 1992 LV and SCP business transferred to GEC-Alsthom
90 and then 250 job losses
- 1993 Northfields emptied
- 1994 New Dining Room opens in December and old dining room is converted into finished goods store.
- 1995 Open Day 10th June, Direct Dial In (DDI) phones introduced, 750kW Drives Test Rig installed. Computer Room moved to middle floor from ground floor.
- 1996 Jan - Alcatel Alsthom buys a third of AEG and the automotive/drives sectors transfers to Cegelec.
- 1999 May and October - Redundancies ,Up to 40 jobs to go as General Drives Division moves to Rugby
- 1999 Company changes to ALSTOM
- 1999 December - LV Business moves to Manchester - Main Factory empty
- 2001 30th March - closure of canteen facility.
- 2001 20th April - closure of Eastfield Garage
- 2001 November - John Seed retires
- 2001 December - huts demolished
- 2002 Jan - ICL remaining at Kidsgrove announce move to Crewe and end of ICL brand name by 2003
- 2002 Jan - Alstom announces up to 20 job cuts at Kidsgrove and move of Power Conversion sector into T & D sector
- 2002 Death of Lord Winestock, Chmn GEC

Open Day 1995



COMPANY LOGOs / BADGES OVER THE YEARS



English Electric
equipment badges used
up to 1968

GEC-Elliott Automation Ltd.
GEC-Elliott Industrial Controls Division
Kidsgrove Stoke-on-Trent Staffs ST7 1TW

GEC Elliot Automation
Ltd, the new company
name from 1969.



GEC Industrial Controls
Ltd - used from mid
1970's to 1989.



Cegelec. The first style
logo known as the 'evil
eye' or 'ball of wool' was
short lived and soon
replaced with the block
and triangle style which
was used up to 1999.

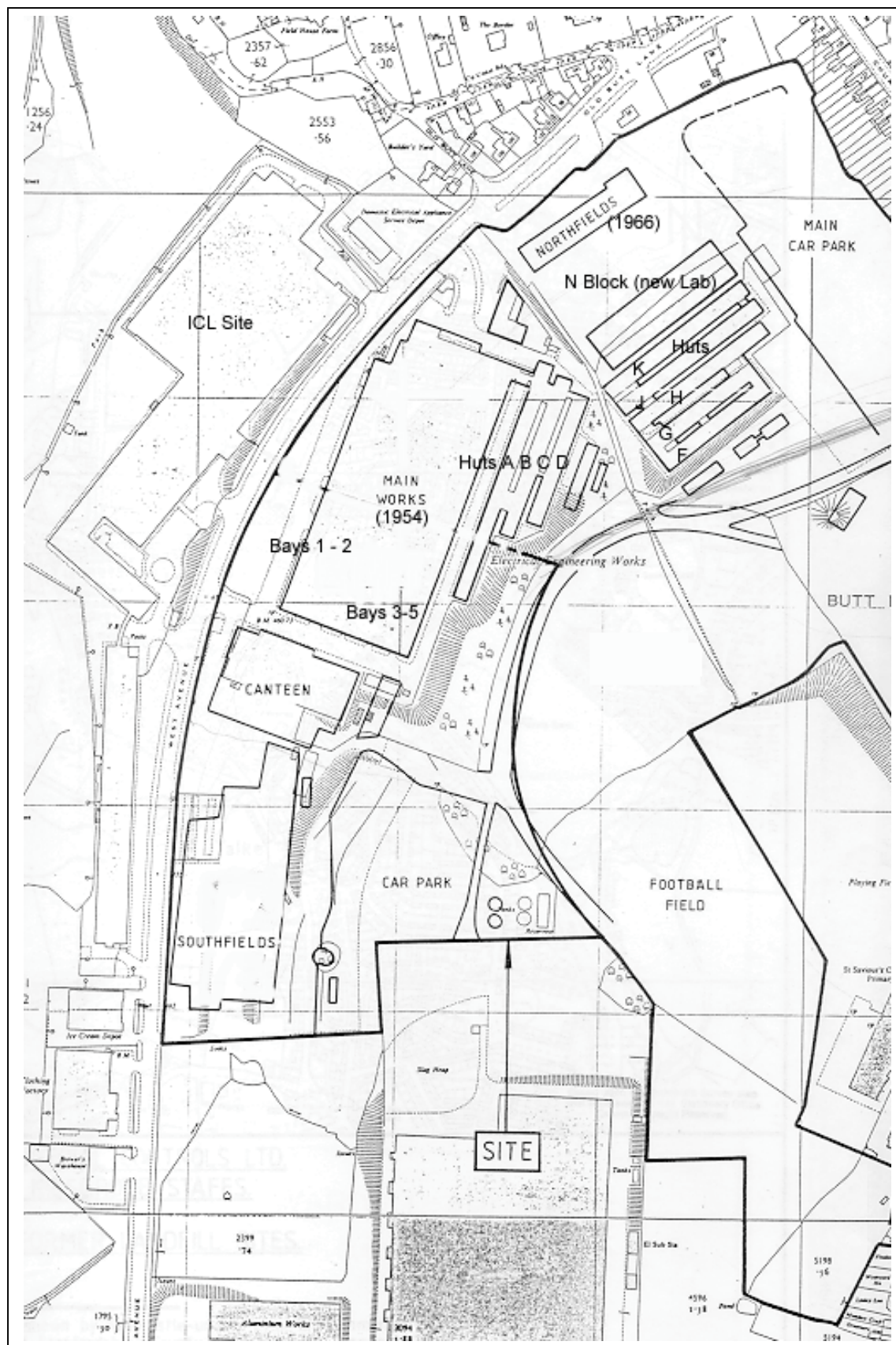
ALSTOM

ALSTOM - from 1999.



Bernie Howe - Manager
Logistics with the team around
1995

MAP OF THE SITE



PICTURES - BUILDINGS



Main Works Bay 1 looking from the North.



Northfields around 1967/68



Building work at the rear of bays 1 and 2 Main Works



PICTURES - PEOPLE 1950s to 1990ss



Assembly of Unistat bins late 1960s(Winnie Lawton)



Testing of Unistat equipment (Bill White)



Miss Alice Russell with the Mayor and Mr CG Burcher (Director & General Manger)



Hughie Wright, CG Burcher, Betty Sinclair, The Mayor and Ian Hirst - visiting the huts - early 1970's



Above - coilwinding section,
main works in late 1950's.



Left : Engineers Ian Aitchison
and John Gare in the Lab -
Hut A south end in 1976.

Below left Ron Huxley, Frank
Danby, Mick Bailey wiring up
of AVR panels in the main
bays.

Right - Lucy Maddocks _PCB
assembly 1970s

