NW England Control Centre

CENTRAL ELECTRICITY BOARD (CEB)

The CEB North West England and North Wales Scheme (NWE), presented by the Electricity Commissioners in 1928, was accepted by the CEB in the same year and a District Office location was established by the purchase of "The Cedars" on the north side of Wilmslow Road, East Didsbury to the south of Manchester. This was one of several large, 19th century, houses which were situated on the eastern side of the original Didsbury village towards Parr's Wood. "The Cedars" was not the largest of these but its estate was of slightly more than 3-acres and included a stable with courtyard and a substantial glasshouse. The main house entrance on the west side was reached by a drive along the west boundary from Wilmslow Road (Wingate Drive?) whilst, beyond this boundary was open land terminated by Didsbury Park, a road with houses only along its western side, facing "The Cedars". On the eastern boundary, there was "Didsbury Lodge", similarly though more grandly provided in over 3 acres. Both fine houses commanded unobstructed views across the road of the local cricket ground.

The house may have been unable to provide sufficient space for an initial Control Room and a temporary building was constructed in a corner of the courtyard. In this, the embryo process of Grid supervision commenced in a space which was barely 15-feet square whilst construction commenced on a permanent building to house a System Control Room and associated offices. The design of this, termed a Central Indicating Station (CIS), was under the instructions of the consulting engineers for the NWE Scheme, Messrs Kennedy and Donkin (K&D), who had also set up offices nearby. Outwardly, the building was of brick construction although it could have been brick-faced concrete. It comprised a Control Room, a Relay Room, some day-staff offices and messing facilities for the shift staff. There was a small outhouse for a 6.5kVA back-up petrol generator unit.

In 1929, Mr Robert Blackmore was appointed Chief Engineer and his assistant was Mr Johnstone Wright who would rise to become the final Chairman of the CEB. Mr Blackmore had been one of only two Chief Engineers of the Stalybridge, Hyde, Mossley & Dukinfield Transport and Electricity Board, one of the many undertakings which the new CEB CIS was to oversee. The new Grid Area to be controlled was in four parts, each based upon closed ring configurations, these being:

a. Merseyside, extending north to Lancaster and south to Crewe with an inter-area connection to the Central England (CE) Scheme from Crewe to Stoke.

b. North West of Manchester from Kearsley to Blackburn with an inter-area connection to the Mid-East England (MEE) Scheme from Nelson to Keighley.

c. Manchester, North East of it and east to Stockport.

The 'a' and 'b' rings were connected by circuits between Warrington and Barton whilst 'b' and 'c' were linked by Kearsley-Barton and Rawtenstall-Agecroft circuits.

d. The fourth arrangement consisted of connections from Lancaster, firstly westward to Barrow and secondly, north over Shap reaching Carlisle to which the Cumberland Ring was attached. From Carlisle, there was a third inter-area circuit to Dumfries in the South Scotland Scheme.

K&D specified telephony with remote indicating and metering equipment from the Automatic Telephone and Electric Company (AT&E) and, when this was ready for use, the new CIS started operation in 1934. In that year, a vacancy for a resident NWE telecommunication engineer was announced and Mr Blackmore interviewed and accepted an AT&E engineer named Percy Gunning for the post and the rest, as the Equipment Section reveals, is history. Several of Percy's ex-colleagues followed him from AT&E including Dean Turton, Bill Porter and Dick Eastwood.

By the mid-1930s, substantial development had occurred and "The Cedars" had become surrounded by recent housing with all of the new properties facing its west and north boundaries across a new "L"-shaped road named Wingate Drive, the extremity of which provided a rear access to the stable yard down the east side of the CIS building. "Didsbury Lodge" had been extended considerably within its original boundaries and was, by this time, a childrens home. A school had also been built to the rear of it and there was, therefore, no more open land bordering "The Cedars". As with all District Offices, whether or not they were accompanied by CIS buildings, the common title of "Grid House" had been applied.

In 1935 the CEB decided to provide emergency facilities to protect the Control function in the event of damage to any of their CISs or to the dedicated single GPO cables connecting them to the main trunk exchanges. Thus, in 1937 the NWE Emergency Control Centre (ECC) was constructed in the Grosvenor Hotel wine cellar on the corner of Chapel Street and Blackfriars Street close to Dial House. This was the Manchester Trunk/Toll telephone exchange where the GPO could transfer all the CIS circuits to the ECC on request. It was said that, by standing on a packing case and peering through an airbrick from the ECC to view the

operations in the hotel kitchen, nobody subsequently felt compelled to eat in that particular establishment. The simplified facilities were provided by sturdy carpentry and the telecommunications equipment was constructed mainly from spare parts.

Maintaining the telecommunications equipment at the outstations involved sometimes long car journeys from Grid House at all hours of the day and night. With such mileages being amassed, motor cars also needed maintenance and K&D had found a very obliging garage along Barlow Moor Road in West Didsbury. This was where Bert and Rose Prest had converted an old stable building in the 1920s and Bert would keep the Grid House lads mobile at much less than true cost, often much to the disapproval of his more business-like wife.

As the NWE Grid developed, the small hydro-electric generation capacity of the North Wales Power (NWP) Company came under the supervision of Didsbury in the form of two small hydro-electric stations at Cwm Dyli and at Maentwrog which were connected to the Merseyside system by NWP Co. circuits.

The War

World War 2 caused many changes to the Grid due to the transfer of industry away from the city areas and the general increase in electricity demand for the manufacturing concerns, then converting to war work. Many additional supply points were added to the Grid which had, in turn, to be strengthened to support them. Lancaster (Quernmore) had been connected additionally to the "NW-Manchester" ('b') system by a connection to Blackburn and the Merseyside system ('a') was strengthened by a connection under the Mersey between Birkenhead and Clarence Dock. There were additional inter-area connectors, these being between Carlisle and Galashiels in Scotland and from Hartshead (system 'c') to Neepsend in the MEE area.

Connections to MEE revealed the problems caused by the use of dissimilar CIS communication systems by adjacent CEB areas in that AT&E telephone and inter-tripping equipment had to be installed at Neepsend, a station which was using apparatus supplied by Standard Telephones and Cables (STC).

The trend of Grid expansion had not been lost on the inhabitants of Grid House and Percy Gunning had produced a plan in 1940 for the redesign of the Control Room Indicator Diagram. This would enable a, large, interconnections display to be constructed in the

centre, with the station metering panels compressed and pushed to the sides, but this was not implemented.

The Wilmslow Road entrance to Grid House was closed off and another one was made through the western boundary in Wingate Drive where the local Home Guard and Territorials provided sentries, complete with a sentry box. The off-duty staff were expected to assist the ARP by performing fire-watch duties from a look-out post on the roof of either Grid House or the CIS building. To facilitate this, the technical staff provided an ARP telephone link with an alarm from the roof to the Control Room.

When there was a shortage of sentries, the gate was closed and a hidden push-button over the fence had to be operated to alert the Control staff. Percy Gunning was arrested one night doing just this, the suspicion being aroused due to his having arrived on a bicycle rather than in his car. Technical staff travelling on call-out to remote sites during the Blackout found conditions very trying and were not helped by over-zealous Home Guard activity. Percy Gunning's police record was further advanced when he was arrested outside the Stockport substation on suspicion of being an IRA activist. The Cheshire and the Lancashire Constabularies could not agree as to which of them should prosecute him, and so he was eventually released. One of his wartime memories was of being allowed to pass through the Mersey Tunnel during an air raid on Liverpool when it was usual to close this route at such times. He nearly got into trouble again when the Control staff pretended no knowledge of him when questioned by the sentry on his arrival, unannounced, on his way home from working at Carlisle.

The AT&E factory was unable to supply equipment for CIS system expansion, mainly due to its priority for manufacturing armaments or for war-related work but the serious damage caused to the works by attacks on Liverpool had helped even less. Because of these wartime shortages, extensions and modifications had to be contrived from any available spare components acquired by the technical staff and many of these parts were recovered by dismantling redundant apparatus. In order to maintain supervision over the many new supply points being added to the Grid, Percy used a design which he had patented in his AT&E days. This simple system, also made from spare parts, would answer GPO telephone calls to unattended stations and play back the switchgear positions using long and short tone pulses in a known sequence to be translated by the Control Engineers. The ECC was updated in step with the CIS, by means of other ingeniously applied talents of improvisation, and it was used on many occasions when enemy action interfered with the main Grid House GPO cable.

Thirteen strategic National Pool Stores were constructed and the North West had three of them at Garstang, Ormskirk and High Legh near Lymm. They were like small aircraft hangars but more sturdily built and, although primarily for the storage of spare transmission plant, a small corner of High Legh was used by the Grid House technical staff.

It was probably inevitable that the fuel concession, which enabled the operational maintenance staff to travel more than was remotely possible by the general public, would be exploited to supply transport for a certain amount of Black Market activity. The overhead line gangs had been something of a law unto themselves and, to improve relations with certain local farmers over whose land they were rampaging, had made arrangements to assist in illegal meat distribution and took orders for its delivery. They then commandeered the Grid House technical staff to go and fetch it, the white collar chaps finding it rather difficult to refuse the "requests" from these rather large and frightening individuals, particularly since they found that they had already been buying some of the meat themselves without realising its origin. To be stopped in the dead of night by the Home Guard or the Police whilst in possession of more than the usual family ration of meat could not easily be explained under the terms of "keeping the lights" on and everyone who had been caught up in the scheme dreaded the nights when their smuggling turns were due.

It was also a difficult period to maintain motor vehicles for ready use but the redoubtable Bert Prest contrived to keep the CEB people mobile by mending the unmendable and typically improving performance by the simple fitting of lighter throttle return springs. New cars could not be obtained and so make-do-and-mend had to continue for a while, even after 1945, just as for the CIS equipment.

It is possible that the CEB Headquarters' example of key staff dispersal would have been mirrored by NWE personnel being placed further away from the Manchester and Liverpool centres.

Post War

Ever since the Grid was coupled nation-wide on a permanent basis, the Crewe-Stoke interconnector was very susceptible to overload, being only one of a pair which always reacted strongly to national North-South flows. In 1947, the first post-war generating station, at Meaford in the CE area, intercepted this circuit thus revising the inter-area connection as Crewe-Meaford but this did not cure the problem as the flows on this circuit continued to cause headaches for National Control.

Industrial production had turned strongly to export such that modernisation of the overstretched CIS equipment by AT&E still had to wait unless "off-the shelf" items could be obtained. In 1947, a private automatic branch telephone exchange (PABX) was added in the Relay Room. The Grid House CIS equipment's ability to serve the Control function did survived the war better than many others despite the unavailability of manufactured equipment to match its supervision of the expanding Grid. This was in no small measure due to the technical staff's unique abilities to produce home-made supervisory facilities out of scrap. Indeed, the ECC saw further use when AT&E were eventually released from their export-only production to perform major "catch-up" surgery on the equipment and where nothing short of complete CIS shut-downs were often the best solutions to facilitate this type of work within reasonable timescales.

Although Control Room congestion was becoming a problem, facilities were advanced by the construction of a load flow diagram (one of Percy Gunning's 1940 recommendations) to the right of the Loading Engineer and the desk was extended to allow the miniature diagram to be enlarged, possibly by the use of mosaic tiles. Whether these changes were effected before nationalisation is not known.