Bygone Days

National Grid Control
Paternoster Square
London

By Tony Churchward

Introduction

Tony writes: I left school in 1945 at age 16 and started an apprentice with BTH in Rugby, but decided to defer this to do my two years National Service when I was 18 in 1947. I went into the Royal Air Force as a Wireless-Teleprinter-Direction Finder operator and completed my training at RAF Radio School, Wiltshire; and then posted to Fighter Control Tangmere, and ended my last posting to H.Q's, Coastal Command, Northwood. My National Service should have been two years but was extended for another three months due to the Berlin Airlift at that time.

On leaving the RAF, and assessing my future, I decided not to go on with my apprenticeship. By returning to complete my seven-year course, I would then be 27 years of age before starting to earn a salary. At the time, I felt this was too long so I started work with IBM as a Field Service Engineer for approximately two years. I then joined the CEA (Central Electricity Authority) in 1951 as a teleprinter operator in National Control just about the time they moved from the WW2 bunker affectionately named the 'Hole'. This was buried deep below St Paul's underground station, to Paternoster Square about 500 yards from St Paul's Cathedral.

During the War, the surrounding area was heavily bombed and the site razed to the ground. It was here in Paternoster Square, a new temporary prefabricated building was erected to house National Control, on the upper floor and the two Thames Controls North and South on the ground floor with a Canteen that served all three Control Rooms. Through this transition period we were re-named from CEA to BEA and finally CEGB. The 'Hut' –

as it became known – remained operational until about 1958 when I moved with National Control to Bankside House in Southwark and Thame North and South moved to their respective new Control facilities in Redbourn, Hertfordshire and East Grinstead, Sussex.

National Control, Paternoster Square (Staff)

The Staff at this time working in National Control, consisted of a Senior Manager with three personnel in the day office and five shift teams rotating to provide 24-hour cover throughout the year. Each team consisted of a Senior Control Engineer, Assistant Control Engineer and a Control Assistant Clerical who attended the Teleprinter network. As an aside, the shift staff wore white jackets and were issued with a clean towel when on shift plus at the end of the year an annual pocket diary.

We had direct securer links to all the Grid Areas Controls around the Country. In these days, the majority of communications to Grid Areas was by teleprinter to reduce the risk of human error and security. If staff had to use a telephone, they had to go through a telephone operator; this also applied to Thames North and Thames South. I recall the Head of National Control at this time was Mr Holroyd and he was then designated a Superintendent.

Duties and Workload

When I joined the CEA in 1951 and got down to work, I realised just how much my RAF training was appropriate for this position. Although there were the usual day-to-day duties, this was overlaid with long periods of time when consumer load reduction/restoration instruction were in operation keeping me extremely busy from 07.00 to 21.00 hours. This was the time when consumer demand was increasing faster than the generation capacity available and particularly critical in the winter months of the year.

A typical winter week day you would get busy from about 07.00 hours when the Senior Control Engineer would inform all Industrial and commercial consumers that load reduction was imminent (generally a 10-minute warning) and they could be losing their power supply. To do this, arrangements were made to install a direct teleprinter line to the BBC long wave duty announcer, who would broadcast this warning over the radio. Simultaneously this warning would also be teleprinted to Control Area.

With all generation on maximum output and unable to meet the total consumer demand, Control Areas would be instructed to impose 1 or 2 stages of voltage reduction. With confirmation from all areas on completion, more stages of demand reduction may be applied if judged necessary by the Senior Control Engineer. All messages would be relayed and confirmed by teleprinter to all Areas.

This procedure was repeated to a lesser or greater degree to cover the 2A (breakfast peak) and generally remaining on until the 2B (lunch time peak), with the same sequence in restoring demand between times until after the 3C (evening darkness peak).

As part of our Control room equipment we had a small radio set to monitor radio broadcast warnings. On one occasion during a Shift around mid-day, we were listening to BBC light programme, 'Workers Playtime'. We were in the middle of restoring our Load Reduction instructions to the Areas, when the Radio announcer, with his usual 'chit chat' said to his listeners 'why not switch off all your lights/power etc if you are not using it'. Within a very short time, the Frequency that had been very low shot up to 50.5 cycles with most of the Load Reduction still on. Needless to say, 'panic stations' trying to restore all Load Shedding as quickly as we could.

National Control was responsible for Electric time control. At midnight, it was a regular event to increase the target frequency to 50.6 cycles until 06.00 in the morning, aiming to correct the electric time by 08.00 hours. I can remember the electric clock exceeding 45 minutes slow and a ratio announcement was made to the general public to manually adjust their electric clocks accordingly.

Throughout the day, the Senior Control Engineer would be dealing with the Area Controls by telephone regarding switching circuits on or off the Grid network as required for voltage control or planned maintenance and frequency correction. All this information would be teleprinted back and forth between National and Area Controls.

The Assistant Control Engineer's duties were checking Plant availability, generation costs and forecast demand to establish and programme Area transfers for period 1 (night minimum), 2A (breakfast peak), 2B (lunch peak), 3A (afternoon trough), 3B (evening peak), 3C (darkness peak), 4A (evening trough), 4B (late evening peak), 4C (trough towards night minimum). This kept him very busy but was still expected to find time to assist the Senior Control Engineer in circuit switching.

The wall 132kv interconnector display diagram was dressed manually when a circuit was taken out and returned from maintenance or fault etc. One had to place a 'U' magnet over the Line, and when back to normal remove same.

In these early days, it was imperative to keep North and South flow to 50mws (maximum 100mws). This was to avoid overloading the two main 132kv interconnectors that divided North and South (Lincoln-Bourne and Meaford-Crewe).

Tests were initiated by The Senior Control Engineer to Mr Bird, Area Control Engineer, to split the North and South areas over weekend by opening the Ironbridge Bus Coupler 130 (Birmingham Area).

There were nine Grid Control areas reporting to National Control: Glasgow, Newcastle, Manchester, Leeds, Nottingham, Birmingham, Thames North, Thames South and Bristol. Overnight Northern Areas were put on High Speed Control (Manchester or Leeds) and for

Low Speed Control (Thames North or Thames South). Many times, during the night we had Glasgow requiring assistance to change their programme transfer due to Hydro overspills.

In 1956, the Russian leader, Nikita Khrushchev and his staff visited National Control whilst still in the 'Hut'. All I can remember of his visit was the security staff. I checked his itinerary of his visit at that time and I could not find verification of his visit. In a conversation with Mr Dennis Cady (Senior Control Engineer) who retired recently, he confirmed to me that Nikita Khrushchev did pay us a visit. He also visited Thames South Control Room as well.

Some Lasting Memories

Around 1953, Mr Welsford (Senior Control Engineer) had a cartoon of his duties for about two months in the Daily Mirror (similar to Ruggles and Jane in that time).
I also remember Mr Davis (Senior Control engineer) had a theory that he felt with the introduction of the 275kv that this attracted lightning strikes on the Grid system. He made a report of his views.

Finally

My spell at Bankside House came to an end in 1957 when I transferred to 'Cuttens' as a Control Assistant until 1967 when I was attracted to move abroad to Australia. Here I worked for NASA tracking station in Canberra, (tracking satellites) for approximately 6 years. I returned from Australia and re-joined National Control at Park Street in 1973 where I remained until 1990 when I moved to Thames South 'Cuttens' at the same time National was relocating to Wokingham. I retired when the Thames South Control Area closed on 14 May 1993.

Written by Tony Churchward. Control Assistant, National Control and Thames South

Edited by Tony Malins

August 2017