

## **Oral History Program: Biographical Notes**

**Ernest Martin BULLOCK (1921 - )**

**Electrical Engineer**

**Birth & Family:** Born in Wellington, NSW in 1921. Father mixed farmer, mother school teacher. Had two older brothers and one younger. Married in 1943, had 3 children over seven years.

**Schooling:** Primary : Wellington Primary School  
Secondary : Wellington Intermediate High School and 2 years at Dubbo High School to first matriculation. Too young for University – repeated 5<sup>th</sup> year at Wollaroi College

**Qualifications:** 1941 Bachelor of Engineering, Sydney University (Electrical/Mechanical Engineering).  
1989 Sydney University – Master of Engineering Science

**Memberships:** Australian Water and Waste Water Association

**Awards:**

**Work History:** Bullock's first job was in December 1941 with NSWGR as Engineer in the Electrical Branch. First assignment was a fuelling system at Ultimo Power Station. Next designed 2 Radar Towers. RAAF wanted lightweight air-warning radar station (LWAW) – he designed structural & mechanical aspects. 30 day deadline to design and produce prototype. Very effective design. The LWAW at National War Memorial Museum. Supplied 15 to British in Burma and US Forces in South Pacific. 50<sup>th</sup> anniversary celebrated in 1992 – postage stamp issued. Design of further radar structures and antennas. Radar system electronics by Gramophone Company (later to become EMI) and Amalgamated Wireless Australia (AWA). Involved in mechanical design for '103' & '104' converters to plan by Dr David Myers – a device for aiming guns using radar information.

Sought promotion to Field Engineer at Mains Depot, Leichhardt. Maintained 320 miles of overhead wires (1500 volts) and 400 miles of high voltage of transmission lines (11 kV to 66 kV). Ultimately in charge of 300 staff. In 1955 – 1957, extended electrification from Parramatta to Lithgow.

Extension of electrification from Hornsby to Gosford. In-house design and construction. Unique design of overhead wire and catenary, due to gradients. Trained own staff to perform work. Sought approval for extension to Newcastle – not approved until 1980 by which time economic benefits were lost

1974 became Supervising Engineer, Country Electrical Services which included electrical services of Wollongong, Lithgow, Newcastle, and all stations west of the Blue Mountains.

Moved to Chief Engineer, Electrical Branch (Under Public Transport Commission, position renamed General Manager) with overall responsibility for design, construction and maintenance of all high and

low voltage power supplies required for traction, workshops, depots, offices, stations and railway yards.

1980 appointed to Chief Operations Manager when State Rail Authority established. Recommended further electrification in 1980 – Albury to Brisbane, and west to Orange and Gunnedah. Introduced computerised seat bookings to improve 'no-show' situation. Chairman of Steering Committee for introducing XPT, daily peak hour reliability review – allocation of responsibility for delays. Introduced computerised wagon control system. New methods for overhead transmission line installation, for improved productivity. Involvement with Sydney Electrolysis Committee, Electricity Supply Association of Australia. Standards Association Electrical Engineering Board – various standardisation activities a continuing involvement as part of his position, and Urban Transit Authority liaison – installation of video passenger information systems at Central Station. Major contribution to NSWGR – 'to do a good job' the pursuit of innovation and excellence.

In retirement, in addition to playing golf, he chaired Railways of Australia committee setting standardised electrical traction voltages between states, and was retained by private consulting firm Hyland, Joy and Wardrop for various projects – feasibility study for light rail system in Malaysia, and study of Melbourne overhead traction supply system.

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Prepared by Freda Garnsey, 15 November 2002 from oral history interviews conducted on 12/11/99 & 15/11/99.