

JOHN ADAM DEMBECKI (1926-) ELECTRICAL ENGINEER

BIRTH & FAMILY: Born 12 June 1926 in Poznan, Poland. His father was a lawyer; mother gifted in maths and linguistics and has a younger sister. Married with three children.

EDUCATION: Primary and secondary, 1932-1946 St Casimir's Poznan. Tertiary, 1946-1948 Science at Goethe University, Frankfurt.

QUALIFICATIONS: Bachelor of Engineering in Electrical Engineering with first class honours and University Medal at University of NSW 1950-1954. Master of Engineering in Control Engineering at University of NSW 1963-1966.

AWARDS: Military Medal with bar, Polish Army Cross for active service in Polish (Resistance) Army, July 1942-May 1945.

MEMBERSHIPS: See attached appendix.

WORK HISTORY: Of Polish and German descent, Dembecki emigrated to Australia in July 1949, following displacement resulting from the German and Russian occupation of Poland. Nazism had polarised his extended family, and his education disrupted by WW2. In 1941 at age 15 he started an apprenticeship at a power station to avoid being picked up as a labourer for Germany. The following year he joined the underground Polish Home Army. In February 1946 he started electrical engineering in Poznan and was soon picked up for three months by the security service. Dembecki was able to escape Poland and enrolled in a science degree in Frankfurt, Germany in September 1946. Post war Germany was impoverished and being afraid of being shipped to Russia or contracting tuberculosis, he discontinued his studies, worked in Paris and improved his English. Dembecki worked his way to Australia on a ship as an electrician.

On arrival in Australia he changed his name because of the difficult pronunciation of his original name. In 1950 he enrolled in electrical engineering at University of New South Wales (UNSW) while working in Sydney. A vacation job with the Electricity Commission at the end of second and third year, led to employment in February 1955 in the Transmission Division, Maintenance and Test Section. While there he was promoted to the new field of System Control and built a specialist computer for the economical dispatch of power, also assisting in the evaluation of computer systems in the US in 1959. On return to Australia he pioneered the trading of power with Victoria.

Following deaths by electrocution at the Maitland floods in 1955, Dembecki worked on electrical safety devices. His work was recognised by the Chairman of the Electricity Commission and received much publicity. The device informed a worker of a dead circuit without having to touch it. While at the Electricity Commission Dembecki also undertook work on Telemetry transmissions and receivers. These devices provided better reliability of the system using the recently developed transistors instead of valves, and achieved it without increasing staffing, which was economically beneficial. They also shortened the time taken to restore power following a disturbance.

The information supplied by Telemetry led to the development from 1958 to 1960 of computerised power system controls, which allowed best economic use of power produced from different sources.

By 1960 Dembecki had advanced to a high grade and was engineer in charge of the Load Dispatch Branch, which coordinated production between stations on the system and handled the interchange of power with Victoria. While there he introduced the computerised remote control system, which was the fourth such system in the world, and was used in the safe development of the Snowy Mountains and Warragamba stations. He negotiated deals with industry and distributors for 'shedding' in emergencies, where power would be cut from non-essential industries to ensure continuity of supply.

In 1967 Dembecki temporarily left the System Control Division for three years to become second in charge of the Power Development Division. He felt that good reliability and economics could be achieved by having operating experience during the development stage of a project. Dembecki saw the primary role of the Electricity Commission was to reliably and economically supply the State's need for power. Australia at the time was exporting energy in the form of coal, and he wanted to develop exports by value adding e.g. aluminum rather than coal and bauxite. Electricity was needed to achieve this and lead a civilized life. In this role he needed to estimate what the power needs might be and how they could be met reliably.

By 1970 Dembecki was in charge of the System Control Division. The challenges the Commission faced at this time were due to overcrowding and environmental constraints, transmission lines had followed population growth on the coast. The decision was taken to move transmission lines inland.

In 1977 he was seconded from the Electricity Commission to head the newly formed Energy Authority as General Manager until his retirement in 1977. He served on the board during this period, part of the time as Chairman. The Energy Authority was established to safeguard energy supplies, following the first oil crisis, which sparked worldwide concern for conservation, long term planning and the efficient use of energy. The Energy Authority's tasks also included the reduction of energy consumption through: pioneering the energy labelling of electrical appliances, the development of solar and wind energy, decreasing greenhouse emissions, rationing petrol during shortages and adding value to exports. To this end the conversion of coal to oil was considered and some experimentation into alcohol fuels. However political interest waned as oil became cheaper, and plans were abandoned. Dembecki had retained the right to return to the Electricity Commission at any time, which enabled him to remain separate from the political aspects of the position. Dembecki retired in 1986, aged 60.

During his career Dembecki lectured and gave short Post-Graduate courses at various universities. He also lectured at seminars at the Academy of Science in the USSR as part of an exchange program and presented papers at many international conferences around the world.

After retirement he was appointed to the board of the Energy Authority for five years, but spent only twelve months in this position at which time the legislation was changed and the Energy Authority was abandoned.

In retirement Dembecki started a small computer consulting company called Quindem and was Managing Director in 1999. Eighteen months after retirement Dembecki had unexpected heart surgery, which caused him to review his time commitments, so he gradually phased out his connections with Sydney University and University of NSW.

Appendix: Memberships

1960-1975 (at various time during the period)

Member, National Editorial Panel Institution of Engineers, Australia (I.E. Aust)

Member, Sydney Division Committee, I.E. Aust.

Member, Various Specialist Committees, I.E. Aust.

1973-1988 Member, Visiting Committee, Elec. Engineering School, University of NSW

1975-1977 Member, Task Force on Energy, I.E. Aust.

1976-1979 Member, Advisory Committee, Electrical Research Board, Australia

1977-1980 Chairman, College of Electrical Engineers, I.E. Aust.

1977-1980 Deputy Chairman, Task Force on Manufacturing, I.E. Aust.

1977-1981 Councillor, Institution of Engineers, Australia

1977-1983 Honorary Associate, Faculty of Engineering, University of Sydney

1977-1986 General Manager, Energy Authority of NSW

1977-1983 Australian Representative, Technical Components Committee,

International Federation of Automatic Control (I.F.A.C.)

1978-1981 Vice-President, Institution of Engineers, Australia

1979-1982 Chairman, NSW Electricity Board

1979-1986 Member of Executive, Australian National World Energy Conference (W.E.C.)

1979-1986 Australian Corresponding Member Conservation Commission, W.E.C.

1979-1986 Member of Executive, Electricity Supply Association of Australia (E.S.A.A.)

1979-1986 Chairman, E.S.A.A. Regulatory Authorities (Equipment) Approvals Committee.

1979-1986 Member, Advisory Committee, Australian Minerals & Energy Council

1979-1986 Member, National Petroleum Advisory Committee

1979-1987 Board Member, Energy Authority of NSW

1979-1996 Councillor, Standards Association of Australia, (I.E. Aust nominee)

1980 Member, Review Committee, CSIRO Division of mechanical engineering

1980-1982 Member, NSW Coal Resource Development Committee

1980-1986 Member, Transac, NSW Transport Strategy Advisory Committee

1980-1986 Member, NSW Environment & Planning Coordination Committee

1980-1986 Member, Australian National Committee, C.I.G.R.E.

(International Conference Large Electric Power Systems)

1980-1988 Member, Industry Advisory Committee, Electrical Engineering, University of Sydney

1981 President, Engineering Section, 52nd ANZAAS Conference

1981-1983 Member, National Energy Advisory Committee

1981-1988 Chairman, International Standards Organization, Solar Energy Committee

1982 Member, Review Committee, CSIRO Division of fossil fuels

1983-1988 Professorial Fellow, Faculty of Engineering, University of Sydney

1984-1986 Member, Electronics & Telecommunications Standards Board, S.A.A.

1984, 1985 Member, I.E. Australia, Engineering Excellence Awards, Judging Panel

1984-1993 Australian Representative, Economic & Management Systems Committee I.F.A.C.

1985-1988 Chairman, Visiting Committee, Elec. Engineering School, University of NSW

1986-1988 Member, Board of Management, Mining & Geological Museum, NSW

1986-1988 Governor, Electrical Engineering Foundation, University of Sydney

1986- Managing Director, Quindem Pty Ltd, Sydney, a Computer Consultancy Company

Fellow, Institution of Engineers, Australia (IEAust.)

Fellow, Institution of Electrical Engineers

Former Foundation Fellow, Australian Institute of Energy

Former Fellow, Australian Institute of Management

Former Fellow, Royal Australian Institute of Public Administration

Former Fellow, Australian Institute of Petroleum