

## **Dr Clarence Hardy 1931 to 2011**

Dr Clarence Hardy, who passed away suddenly on Monday 18 April 2011 from a heart attack, was one of the most influential figures in the development of nuclear technology in Australia. Apart from his personal achievements, he envisaged a grand design for Australia in which a fully integrated nuclear fuel cycle industry – under international surveillance and control – would refine and enrich uranium, fabricate fuel elements to be leased to the operators of nuclear power stations (both overseas and, in due course, in Australia) then take back the spent fuel, reprocess it, recycle fissile materials and dispose of the waste – all here in this country.

As a first step in pursuit of this objective, he promoted the engineering and economic feasibility of building and operating an enrichment plant for Australian uranium. He was Managing Director of Nuclear Fuel Australia Ltd, which he founded in 2007 for this purpose. However, it was never politically acceptable.

Clarence James Hardy was born (1931) and grew up in Derbyshire, England, where he attended Long Eaton Grammar School. He studied chemistry at the University of Bristol and received the degrees of BSc (1952), PhD (1955) and DSc (1971). He worked at the Atomic Energy Research Establishment at Harwell in the UK from 1955 to 1971 and was seconded to work at the Oak Ridge National Laboratory in the USA from 1965 to 1966, holding senior positions at both these national nuclear laboratories.

In 1971, Dr Hardy was appointed to the position of Chief of the new Chemical Technology Division of the Australian Atomic Energy Commission. When the AAEC was replaced by the Australian Nuclear Science and Technology Organisation (ANSTO) in 1987, he was appointed Director of Industrial Technology and was also a member of the Management Committee of Tracerco Australasia, a Joint Venture with ICI Australia.

Following his retirement from ANSTO in 1991, Dr Hardy was a consultant to the nuclear industry and accepted several important voluntary positions. He was a past-President and, at the time of his death, Secretary of the Australian Nuclear Association (ANA) and Editor of its newsletter, “Nuclear Australia”, and a member of the committee of the Nuclear Engineering Panel of Engineers Australia’s Sydney Branch. He had recently completed four years as Vice-President (2004-2006) and President (2006-2008) of the Pacific Nuclear Council, which represents over 60,000 nuclear professionals in the Pacific Region and sponsors the biennial Pacific Basin Nuclear Conferences. He was a member of the International Nuclear Energy Academy.

Dr Hardy had been the Executive Chairman of seven national and three international conferences in Australia since 1994, the most recent being the 15th Pacific Basin Nuclear Conference at the Sydney Hilton in October 2006. He was also a member of the Working Groups of the Pacific Nuclear Council and the International Nuclear Societies Council, on radioactive waste management. He received the ANA Annual Award for 1998, for outstanding contributions to nuclear technology.

During his 55-year career, Dr Hardy published over 100 technical papers and patents in nuclear science and technology and gave over 100 talks to technical and non-technical audiences in Australia. In 1999, he published a history of the AAEC, “Atomic Rise and Fall: The Australian Atomic Energy Commission 1953-1987” and, in 2008, “Enriching Experiences” – actually the sad story of uranium enrichment in Australia, 1963-2008.

Clarence Hardy will be sorely missed by his many colleagues and friends in Australia and overseas. He is survived by his wife, Mollie, and children, Christopher, Anthony, Sarah and John.