Managing Ageing of Karachi Nuclear power Plant (KANUPP)

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Karachi Nuclear power Plant (KANUPP), a 137 MWe CANDU plant, was built on a turn-key basis by the Canadian General Electric (CGE) in the late sixties. The plant with a design life of thirty years went into commercial operation in October, 1972. After nearly three decades of operation, KANUPP like all other plants has faced the problem of equipment ageing and obsolescence. KANUPP has been striving hard to combat these problems with the assistance from IAEA, COG and WANO. During early eighties IAEA expert missions were called at KANUPP on various safety issues and on their recommendations various projects such as Safe Operation of KANUPP, Technical Upgradation Project, Balancing, Modernization and Rehabilitation project were initiated to combat equipment ageing and obsolescence. KANUPP has made substantial progress in the implementation of the tasks under these projects and the operating life of the plant is expected to be extended by 15 years. Three IAEA expert missions were invited at KANUPP during 1999-2000 to carry out assessment of the ongoing activities related to plant ageing management. On the basis of their recommendations an Ageing Management Programme has been formally established at KANUPP to manage age-related degradation of plant systems, structures and components important to safety and to ensure that the required safety functions are available for the extended life of the plant. Being close to completion of its nominal design life in October 2002, KANUPP has already applied to Pakistan Nuclear Regulatory Authority for renewal of operating license. This paper briefly describes the activities related to ageing management of KANUPP to fulfil the requirement for its continued operation beyond its design life.