

International Conference on Management of Spent Fuel from Nuclear Power Reactors: An Integrated Approach to the Back End of the Fuel Cycle



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First experience in basic design of a dry storage facility for spent fuel in Argentina

Atucha I NPP was started up in 1974 initiating the nuclear energy production in Argentina. It is a HWR pressure vessel type of 350 Mw. With the purpose of solving the current situation that both fuel pools capacity will be soon complete (Pool Buildings I and II) and considering the future life extension of the Plant, CNEA was asked to develop a project integrating systems in a new building for dry storage of spent nuclear fuels, called ASECO (acronym in Spanish: Almacenamiento en Seco de Elementos Combustibles Quemados).

This project was carried out considering the requirements of the National Program for Radioactive Waste Management (CNEA) and the recommendations of IAEA through a review mission called "Peer Review Mission IAEA IFMAP CNAI Spent Fuel Dry Storage Project" held from 12 to 16 March 2012 in CNAI site. This revision was asked by NA-SA in the framework of Irradiated Fuel Management Advisory Programme

ASECO is being built in simultaneous with the operation of the NPP and it will work in the same line of Pool Building I. In this way ASECO will use the existing crane of Pool Building I and other systems, already validated and operative for transport in vertical position of spent fuel elements. It will be also possible to return the spent fuels to the Pool in order to be removed for further management. It has a total storage capacity of 2754 Spent Fuel Elements.

This configuration will facilitate the Operator (NA-SA) to transport the spent fuel elements and the National Regulatory Authority (ARN) control the operation and inventory inside the proper Plant, fulfilling the nuclear surveillance and regulated safeguards. Monitored natural convection of air in normal operation was adopted outside the second barrier of protection. In case of an abnormal event the natural convection is replaced by an alternative cooling and treatment closed system for the air.

Country/ int. organization

ARGENTINA / COMISION NACIONAL DE ENERGIA ATOMICA

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