

PROMOTING APPLICATION OF ELECTRON ACCELERATOR AND RADIATION PROCESSING IN MALAYSIA.

SITI AIASAH HASHIM

Former DG of Malaysian Nuclear Agency, incumbent President of Women in Nuclear (Malaysia)

The Malaysian Nuclear Agency is a government owned research institute that promotes peaceful use of nuclear and radiation technology. In 1990, with the assistance of JICA, Nuclear Malaysia received a 3MeV 30mA electron beam machine that will be used for research in radiation applications and processing. Through this collaboration, Nuklear Malaysia had gained experience in various aspects of EB machine utilization including operation, maintenance, and experimental designs.

Polymer crosslinking process using chemical is widely use by local SMEs during production of wire, cable, and heat shrinkable tubes. However, radiation crosslinking was seen as an expensive and requiring high capital. This motivated Nuklear Malaysia to showcase radiation crosslinking process for tubal products by installing and incorporating an industrial handling system into the facility and provide irradiation service to the SMEs. This resulted in growth of local SME that supplies radiation crosslinked cable and heat shrinkable tube for Malaysia's very own automotive industry. In 2021, Nuklear Malaysia was appointed as technical consultant for a local cable company to install an EB facility for their in-house radiation crosslinking process. Although there are other facilities, this installation is the first owned by a local company. This shows that radiation processing is slowly being accepted by locally owned manufacturing industries.

The EB irradiation facility in Nuklear Malaysia is also servicing semiconductor and small medical devices manufacturers. Occasionally it would receive request to irradiate medical ingredient and food stuff.

It should be noted that for 30 years, the facility has groomed numbers of polymer and radiation applications graduate together with various innovations as output of their research. These research works are very important to support the promotion of radiation processing in Malaysia.