IMPROVEMENTS IN BETA PLASTIC TECHNOLOGY REGARDING CONTAMINATION CONTROLS FOR NUCLEAR POWER PLANTS

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Oconee Nuclear Station is a three unit Pressurized Water Reactor (PWR) with supporting systems contained under one roof. Legacy primary to secondary tube leaks and failed fuel has created challenges in contamination control to meet the Institute of Nuclear Power Operations (INPO) guidelines for release of personnel from radiation control areas. The predominant monitors on the market are large, heavy units which require P-10 counting gas for gas flow detectors. We were interested in finding an alternative style detector which required less maintenance but still possessed the necessary sensitivity. Rados Technology, through Merlin Gerin Instruments, was contacted and their RTM-110 hand and foot monitor was modified with solid state beta plastic scintillation detectors. The performance of the first two prototypes was so impressive that we purchased 15 total RTM-110's and had Rados modify two conveyor monitors for laundry monitoring (beta only) and tool monitoring (beta and gamma). We have also purchased 3 TSE whole body monitors which are gas free. The efforts of Rados has improved surveillance of personnel, laundry, and tools while reducing the cost to maintain former instruments in materials and labor.