

Isotopic Mapping Program at Prairie Island Nuclear Generating Plant

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The paper describes the two-year program development for the new ALARA tool employed at Prairie Island Nuclear Generating Plant. The CZT instrument is used to perform isotopic mapping of each PWR unit during refueling outages. Three main areas of development will be discussed: 1) Use of CZT to have evaluating the adequacy of temporary shielding, 2) Use of CZT for outage contamination control & 3) Use of CZT for final survey of shipments leaving the site.

The CZT instrument is used in concert with the RP Technician final survey of radioactive waste or tooling shipments to quickly locate and verify the highest dose rate spots on the trailer. Verification of temporary shielding has proven to quickly identify streaming from small gaps in the temporary shielding lead blankets which can be easily remedied by repositioning of the temporary shielding by RP technicians.

Finally, the paper discusses the visits to higher dose US PWRs to examine other possible ALARA applications of the new ALARA tool at Prairie Island to increase outage efficiency and reduce worker dose.