

“US PWR and BWR Experience in Reducing Critical Path, by Reducing Radiation Source Term: A How to Guide for Improving from WANO 4th Quartile to 1st Quartile for Collective Radiation Exposure”

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In the United States, nuclear power has increasing competition from US natural gas and oil energy production. Contemporary management recognizes that continuous examination of processes, which impede maximizing the economic operation of power reactors, is mandatory to maintain safe and profitable operations. Utility executives goal of good management, includes making the most of the organizations valuable, and limited resources. This paper will report on of how leadership in selection of cost effective source term reduction actions, has resulted in reducing both dose reduction and reduction in outage critical path. Thereby, providing not only improvement from WANO 4th quartile to 1st quartile in collective radiation exposure (CRE), but also providing an economic return on the investment (ROI) of 400% to 1300%, every refueling outage.

Lead PWRs have directly reduced 24 to 48 hours of critical path time and achieved WANO Top Quartile Performance, by collaborating with subject matter experts from (n,p) Energy, Inc, holder of world wide exclusive grant of license for new resin technology from Los Alamos N.L., to develop and implement a new engineered solution to reduce source term. Lead BWRS have reduced critical path using leveraging the successful approach for PWRs.