

**BNL ALARA CENTER****Processes and Practices Related to Occupational Dose**

ID: 15

**ELIMINATE ANTIMONY IN MAIN COOLANT PUMP BEARINGS (PWRs)****Keywords:** ANTIMONY IN RCP BEARINGS; ANTIMONY**Description:**

A significant proportion of radiation dose in nuclear power stations is produced during inspection. Antimony sources provide the bearings of the main coolant pumps from Sb-impregnated coal. Theoretically, defective Sb-Be secondary neutron sources also play a part. The investigations conducted during commissioning led to the expectation that a significant contribution to the collective dose during the first inspection of the plant would be made by Sb-124. It was therefore decided to take steps to reduce as much as possible the Sb-activity occurring during the shutdown of the plant. The procedure practiced showed that Sb-mobilization and subsequent removal of Sb-activity within 40 hours, even before the opening of the reactor pressure vessel top cover, can be carried out successfully.

**References and Selected Abstracts:**

1. Stoackert, H., Emmert, H, Meyer zu Schwabedissen, C., and Seifert, K. (F.R. Germany), "Removal of Antimony from the Primary Circuit of Pressurized Water Reactor Plants and Results from Carrying this Out at Philipsburg-2 Nuclear Power Station (in German)," Vol. 67, March 1987, pp. 288-290.