

## **ABSTRACT**

### **Causes of Tritium Effluent Increases and Strategies for Reducing Releases**

Clay Madden

Energy Northwest – Columbia Generating Station

Columbia Generating Station initiated action in 2003 to determine the cause of an increasing trend in tritium releases and to reduce those releases if possible. Strategies for determining the cause of the tritium increase led to routine sampling revisions. Increases in boron followed the increased coolant tritium, and steam leaks resulted in turbine building releases at 350,000 cfm. The revised sampling program resulted in the identification of a rapid rise in boron levels in the Spent Fuel Pool coincident with IFSI activities. All other metal and nuclide concentrations remained stable. Initial calculations determined that about 47 grams of boron are added with each cask lowered into the pool.