

## WASHINGTON PUBLIC POWER SUPPLY SYSTEM

## PLANT PROCEDURES MANUAL

UNCONTROLLED  
WP-2

PROCEDURE NUMBER *12.10.6	APPROVED <i>J. Martin</i>	DATE 06/21/83
VOLUME NAME 12 CHEMISTRY PROCEDURES		
SECTION 12.10 POST ACCIDENT SAMPLING AND ANALYSIS		
TITLE *12.10.6 IODINE AND PARTICULATE FILTER ANALYSIS		

12.10.6.1 Purpose

This procedure describes the analysis of iodine and particulate filters taken from the post accident sample station.

12.10.6.2 Precautions/Prerequisites

- A. Using calibrated portable dose rate meters survey sample to determine dose rate.
- B. Samples must be sealed in plastic bags prior to counting on the gamma spectrometer.

12.10.6.3 Equipment

None

12.10.6.4 Reagents

None

12.10.6.5 Procedure

- A. Count samples on gamma spectrometer loaded face side down.

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B. Calculate as follows:

$$\text{uCi/cc} = \frac{(A)(e^{\lambda t_1})(D)}{(B)(C)}$$

A = uCi of isotope identified

B = Collection period in minutes

C = Sample flow rate in cc/min

D = Decay during collection,  $\frac{\lambda t_2}{1 - e^{-\lambda t_1}}$

$\lambda$  = decay constant of specific nuclide (sec<sup>-1</sup>)

$t_1$  = time from sampling to counting (seconds)

$t_2$  = duration of sample period in seconds

Record results in post accident analysis log.