

ENVIRONMENTAL MONITORING QA/QC PUBLIC HEALTH PERSPECTIVE

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Environmental monitoring for possible radiochemical contamination has been conducted in California for many years. An increase in public concern for such contamination has been evident in the past few years due to several issues: two of the issues being the presence of nuclear power plants and the closure of military bases in California.

Monitoring for possible contamination is regularly conducted by the Department of Health Services as a preventative measure toward minimizing exposure of the public to harmful pollutants and as a means of ensuring a safe environment for the residents of California. Monitored areas include and are not limited to lakes, streams, rivers, bays, ocean, ground water, air, soil, vegetation, and food. Two basic criteria for effective monitoring are data reliability and legally defensible data.

Data reliability rests on numerous factors, QA/QC being one. In radiochemistry, due to differences in methodology and physical/chemical properties of radionuclides from other methods/analytes, QA/QC may be different from the generally accepted format for other analytes.

With the exception of aqueous sample analyses, the radiochemical methods for other sample matrices rests on what is now termed performance based measurement systems (PBMS), whereby a reference method is altered as needed (data quality objectives/measurement quality objectives) to perform analyses of analytes in a particular matrix. This type of method alteration requires other QA/QC measures which are necessary to insure data quality.

Various QA/QC measures will be discussed along with establishment of additional requirements for data quality. Accreditation of laboratories to require and monitor the QA/QC as a measure of determining the reliability of radiochemical data will be

di scussed.