

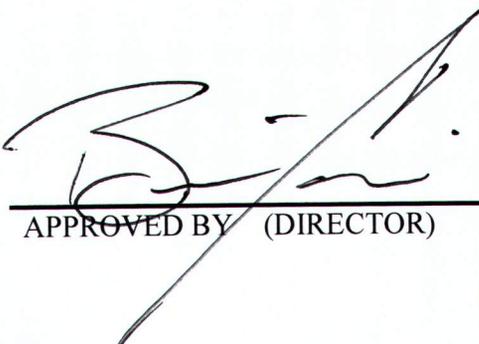
The Administrative Procedure Act requires the publication of substantive policy statement currently in use, including its full text, if practicable. (A.R.S. § 41-1091.01). Substantive policy statements are written expressions which inform the general public of an agency's current approach to rule or regulation practice. This substantive policy statement is advisory only. A substantive policy statement does not include internal procedural documents that only affect the internal procedures of the agency and does not impose additional requirements or penalties on regulated parties or include confidential information or rules made in accordance with the Arizona administrative procedure act. If you believe that this substantive policy statement does impose additional requirements or penalties on regulated parties you may petition the agency under section 41-1033, Arizona Revised Statutes, for a review of the statement.

NOTICE OF SUBSTANTIVE POLICY STATEMENT

ARIZONA RADIATION REGULATORY AGENCY

[ARRA-REG-9000]

- 1. Subject of the substantive policy statement and the substantive policy statement number by which the policy statement is referenced:**
Acceptable Reporting of Laboratory Data for Ionizing Radiation
- 2. Date the substantive policy statement was issued and the effective date of the policy statement if different from the issuance date:**
Effective February 10, 1997
- 3. Summary of the contents of the substantive policy statement:**
Outlines lab data reporting and quality control criteria to provide for a consistent and scientifically defensible basis for Agency decisions.
- 4. A statement as to whether the substantive policy is a new statement or a revision:**
This is a current policy statement.
- 5. The agency contact person who can answer questions about this substantive policy statement:**
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APPROVED BY (DIRECTOR)

11/30/16
DATE

Policy Number: ARRA-REG-9000
Effective Date: February 1997

Subject Title: Acceptable Reporting of Laboratory Data for Ionizing Radiation

A. Introduction

This Regulatory Guide has been prepared to provide for a consistent and scientifically defensible basis for decisions made by the Arizona Radiation Regulatory Agency. This Guide will address the elements that should be available to assure the appropriate quality of data used by a person to support a requested action. In general it is to apply to environmental samples, decommissioning samples, other waste samples, radioactive material release data, and radioactive materials in consumer products.

B. Discussion

The quality of laboratory results is affected by several factors. Each factor should be stated with the results, or be available from the laboratory to support the validity of the reported results. Each laboratory should have an internal quality control program which supports the data being reported. Further, the laboratory should have sufficient professional staff who are familiar with the problems of detecting and counting the radioisotopes from which data is being reported.

C. Data Reporting

Data being reported by a laboratory shall contain the following information:

1. The radiation being detected to determine the quantity of the radioisotope. When a chain decay is involved, the report shall indicate which radiation, radioisotope, or energy is actually counted. The report shall also include the degree of equilibrium is assumed for the calculations.

The 95% error associated with the reported data. This includes the propagation of the errors associated with the actual count, the errors associated with any other radioisotopes which are detected concurrently, and the error associated with the background count. Appendix A details some acceptable methods for determining these errors.

3. The minimum detectable concentration (MDC), lower limit of detection (LLD), or minimum detectable activity (MDA) shall be reported for each radioisotope reported. The acceptable values are desirably 1/10 of regulatory limit or other established limit for the reported radioisotope. In no case shall these value be higher 1/5 the limit. Appendix B details some acceptable methods for determining these values.

The laboratory quality control program must include the running of split samples, duplicate sample, spiked samples, and cross checks with other laboratories when such cross checks are available. Spiked samples should not be spiked with more than twice the regulatory levels of radioactivity in the real samples. Duplicate and split samples should be included on each batch

analyzed or on 10% of the samples, whichever is greater. The laboratory standards should be traceable to the NIST standards, when available.

The reported data should not contain more significant digits than the smallest number of significant digits used in the processing of the samples. In general, this limits results to two significant digits.

A chain of custody and records must be maintained for each sample.

Samples should be collected in a manner that assures that the samples are representative of the materials being sampled. Details of the sampling plan and procedures should be available on request.

Laboratory procedures should be available for review on request. These procedures should indicate the exact order of performing the laboratory analysis as well as which radioisotope was actually counted. The procedure designation, including any revisions, should be supplied with the report.

D. Interpretation of Data

The data supplied for Agency use will be interpreted as valid if it conforms with this guidance. Negative values may be reported due to the variation in background counts. For regulatory purposes these will be considered as zero. Further, any value which is less than the detection limit plus the 2 σ error will also be a zero or not detectable as appropriate. Any sampling program should conform with Program Guide 2500.