



Department of Energy

Idaho Operations Office
850 Energy Drive
Idaho Falls, Idaho 83401-1563

October 24, 2000

Mr. Gene Bonano
U.S. NRC-Region 3
801 Warrenville Road
Lisle, IL 60532-4351

SUBJECT: Results of Intercomparison Test 54 (TPO-RESL-00-173)

Dear Mr. Bonano:

Enclosed are the results of Intercomparison Test 54.

The acceptance criteria are based on the method described in NRC Inspection Procedure 84725, Quality Assurance and Confirmatory Measurements for In-Plant Radiochemical Analysis and are detailed on a separate page.

If you have questions, please contact me at (208) 526-8031. Thank you for your participation.

Sincerely,

A handwritten signature in black ink, appearing to read "David Sill".

David Sill, Senior Research Chemist
Radiological and Environmental
Sciences Laboratory

Enclosure

cc: John Buckley, NRC

~~ML003964779~~

OCT 31 2000

g No.	Sample ID	Nuclide	Known Activity	Expt'l Activity	Ratio Exp/Known	Agreement
-74	ITP54NRC3	Co-57	1.98 +/- 0.04 E1 pCi/g	2.04 +/- 0.04 E1 pCi/g	1.03 +/- 0.03	YES
-74	ITP54NRC3	Co-60	1.16 +/- 0.02 E1 pCi/g	1.22 +/- 0.03 E1 pCi/g	1.04 +/- 0.03	YES
-74	ITP54NRC3	Cs-134	3.41 +/- 0.07 E1 pCi/g	3.19 +/- 0.04 E1 pCi/g	0.93 +/- 0.02	YES
-74	ITP54NRC3	Cs-137	2.78 +/- 0.07 E1 pCi/g	2.94 +/- 0.06 E1 pCi/g	1.05 +/- 0.03	YES
-74	ITP54NRC3	Mn-54	2.34 +/- 0.05 E1 pCi/g	2.41 +/- pCi/g	1.03 +/- 0.02	YES
-74	ITP54NRC3	Zn-65	1.25 +/- 0.02 E1 pCi/g	1.35 +/- 0.03 E1 pCi/g	1.08 +/- 0.04	YES

Samples Prepared By: David Selt

Activities Are as of: 09/29/2000 Uncertainties Are One Sigma

Acceptance Criteria: 3 sigma 33 % -25 %

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Date: 10/25/2000

Acceptance Criteria

The acceptance criteria are based on the method described in NRC Inspection Procedure 84725, Quality Assurance and Confirmatory Measurements for In-Plant Radiochemical Analysis. The known value was divided by its uncertainty to obtain the resolution.

Resolution	Nuclide Ratio
4-7	0.5 - 2.0
8-15	0.6 - 1.66
16-50	0.75 - 1.33
51 - 200	0.80 - 1.25

Warning flags are given when the experimental result differs from the known value by more than 2 standard deviations; even if the experimental value is within the acceptance criteria.

The warning flag is for information only, and should not be considered as an indicator of unacceptable performance for this program. However, multiple or reoccurring warning flags due indicate the presence of unknown systematic uncertainties that should be address by the laboratory before unacceptable performance is encountered.