



## Department of Energy

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

April 4, 2001

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

SUBJECT: Results of Intercomparison Test 56 (TPO-RESL-01-061)

Dear Mr. Bonano:

Enclosed are the results of Intercomparison Test 56.

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 cursive script, appearing to read "David Sill".

David Sill, Senior Research Chemist  
Radiological and Environmental  
Sciences Laboratory

Enclosure

cc: John Buckley, NRC

Samples Prepared for: NRC Region III

Log No.	Sample ID	Nuclide	Known Activity	Expt'l Activity	Ratio Exp/Known	Agreement
NRC-80	ITP56NR3	Co-57	1.21 +/- 0.02 E0 pCi/g	1.3 +/- 0.03 E0 pCi/g	1.07 +/- 0.03	YES
NRC-80	ITP56NR3	Co-60	2.63 +/- 0.06 E0 pCi/g	2.8 +/- 0.06 E0 pCi/g	1.06 +/- 0.03	YES
NRC-80	ITP56NR3	Cs-134	9.5 +/- 0.2 E0 pCi/g	9.0 +/- 0.12 E0 pCi/g	0.94 +/- 0.02	YES
NRC-80	ITP56NR3	Cs-137	8.51 +/- 0.14 E0 pCi/g	8.7 +/- 0.17 E0 pCi/g	1.02 +/- 0.03	YES
NRC-80	ITP56NR3	Mn-54	1.52 +/- 0.02 E0 pCi/g	1.7 +/- 0.04 E0 pCi/g	1.12 +/- 0.03	WARNING 3.6sig
NRC-80	ITP56NR3	Zn-65	7.51 +/- 0.10 E0 pCi/g	8.5 +/- 0.2 E0 pCi/g	1.13 +/- 0.03	WARNING 4.3sig

Samples Prepared By: David Lill

Activities Are as of: 03/29/2001

Uncertainties Are One Sigma

Acceptance Criteria: 3 sigma 33 % -25 %

## 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
<b>16-50</b>	<b>0.75 – 1.33</b>
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.