



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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October 1, 1997

Mr. James Mecca
U.S. Department of Energy
P.O. Box 550
Richland, WA 99352



Dear Mr. Mecca:

Re: Approval of B-Plant Solutions Sampling and Analysis Plan (HNF-SD-WM-EV-118, REV. 0)

Pursuant to the *Approved Hanford Federal Facility Agreement and Consent Order Change Requests M-82-96-01 and M-20-96-01*, dated December 3, 1996, the Washington State Department of Ecology (Ecology) has completed its review of the B-Plant Solutions Sampling and Analysis Plan (SAP).

Review of the subject document resulted in the following concerns in the area of laboratory quality assurance \ quality control (QA/QC):

- Some analytical methodology presented in the SAP (i.e., Doc # HNF-SD-WM-EV-118, REV. 0) may be questionable in light of the recent Ecology audit of the 222 -S Laboratory. Because of radiological safety concerns, standard sample size per SW-846 may be reduced in order to meet laboratory licensing requirements for radioactivity. Sample size reduction is typically done on samples taken from the canyon tanks due to the high level of radioactivity associated with materials contained by those tanks. Detection limits that are normally achieved by proper implementation of SW-846 may be compromised when the sample size is reduced.
- Two additional parameters found not in accordance with SW-846 are sample holding times and the maintenance of the correct sample temperature prior to analysis. One or both of these parameters, depending on the contaminant of concern, can greatly impact analytical results.
- Finally, the strontium analysis is incomplete. It does not consider daughter products for calculating total activity (i.e., radiological contributions from Yttrium and Sr 89 is not taken into consideration.)

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Analytical methods specific to the 325 Laboratory listed in the SAP may also have similar problems. However, the Ecology audit did not include this Laboratory.

Other elements of the SAP, such as number of samples to be collected and the associated analyte list, are adequate to determine tank contents. Ecology will approve the SAP with the following conditions:

- The U.S. Department of Energy directs the 222-S Laboratory to adhere as closely as possible to SW-846 when performing the analysis stipulated in the SAP;
- Any deviations from SW-846 will be clearly indicated in analytical results used for regulatory compliance at B Plant; and
- Analytical methods utilized at the 325 Laboratory for B-Plant samples will be reviewed by Ecology to determine if the same QA/QC deficiencies found at the 222-S laboratory are present. This will be done specifically for B-Plant, not as an official Laboratory audit unless otherwise indicated.

Please note that all data generated from B-Plant SAP implementation will be reviewed with the QA/QC deficiencies (presented in the first three bullets above) in mind.

If you have any questions or concerns regarding this letter, please contact me at (509) 736-3012.

Sincerely,



Ted Wooley, B-Plant \ WESF Project Manager
Nuclear Waste Program

TW:sb

cc: Paul Carter, USDOE
Dave Evans, USDOE
Rick Gonzales, USDOE
Fen Simmons, B&W
Administrative Record: B-Plant