TENNESSEE VALLEY AUTHORITY
SPB 2S 201P
Knoxville, Tennessee 37902

NUV 20 1989

Mr. Robert Stryker
United States Environmental
Protection Agency
Region IV
Toxics Section
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. Stryker:

TENNESSEE VALLEY AUTHORITY (TVA) - SEQUOYAH NUCLEAR PLANT (SQN) - NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NO. TN0026450 - POLYCHLORINATED BIPHENYLS (PCB) CLEANUP PLAN

The purpose of this letter is to provide the status of TVA's reclamation efforts for the SQN low volume waste treatment pond (LVWTP). Also, this letter will serve to document the results of a November 2 telephone conversation between Abraham H. Loudermilk, Jr., Jim G. Mantooth (both with TVA), and you concerning TVA's technical proposal for cleanup of the LVWTP.

In an August 11 meeting, documented by an August 24 letter to you, EPA and TVA agreed upon a statistical sampling plan for quantifying PCB concentrations in the LVWTP sediments. A PCB cleanup criteria of 25 milligrams per liter (mg/l) or less for the pond sediments was also agreed upon. Enclosure 1 is a topographic drawing of the pond with an overlay which illustrates the physical location of the individual sample points. A September 12 letter from Richard D. Stonebraker, EPA, recommended that rather than composite the top two inches of a core from each of the sampling points into three area samples as originally agreed upon, the 2-inch increments should be analyzed individually. Enclosure 2 is a table of the analytical results for the top two inches of sediment from each sample point. As shown in the table, only one sample point, PCB-10, exhibited a PCB concentration greater than the 25 mg/l cleanup criteria.

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1/1

The remaining eight inches of the 10-inch core sample taken at PCB-10 was then divided into four, 2-inch increments and analyzed for PCB concentrations. Enclosure 3 is a table of the analytical results. As shown, the PCB concentrations below the top two inches of the PCB-10 core sample were less than the 25 mg/l cleanup criteria. Migration of PCB through the soil column was restricted, at least in part, by the clay content of the pond's bottom. Soil samples from the randomly selected points of PCB-3,7,10 and 17 show that the pond's bottom consists of an inorganic clay with medium-to-high plasticity and a clay content ranging from 38% to 71% (average of 50%). Therefore, it is reasonable to assume that the migration of PCB through the soil column at the other sample locations within the pond is similarly limited.

To further define the potential cleanup area, additional samples consisting of the top two inches of sediment were collected around the immediate area of PCB-10 and analyzed for PCB concentrations. Enclosure 4 is a table of the analytical results while the overlay of Enclosure 1 shows the area of the pond's bottom which must be removed to comply with the 25 mg/l cleanup criteria. The resulting volume of soil to be removed for disposal is approximately 108 cubic yards.

In summary, EPA and TVA agreed in the November 2 telephone conference that TVA will remove the top two inches of soil within the approximate boundaries shown by the dashed line on the overlay of Enclosure 1. This soil will be transported to Chemical Waste Management, Inc., hazardous waste landfill located at Emelle, Alabama, for disposal. TVA will continue to dewater the LVWTP under the stipulations of the agreement reached between the Tennessee Division of Water Pollution Control (TDWPC) and TVA as identified in the December 2, 1988 meeting at the TDWPC Chattanooga field office, the January 4, 1989 confirmation letter to Philip L. Stewart, and the May 1, 1989 project status report to Ann McGregor. In addition, it was agreed that any water which could not be pumped from the pond due to the potential for exceeding the total suspended solids limitation of the NPDES permit (approximately 100,000 gallons) could be solidified and mixed with the soil of the pond's bottom after cleanup. A pond liner will be installed prior to returning the LVWTP to service to reduce the potential for leaching of any remaining PCB into the pond's contents after it is returned to service. Design plans and specifications for the liner will be submitted to the TDWPC for review and approval prior to installation. TVA is presently pursuing a "turn-key" type contract to complete reclamation of the SQN LVWTP.

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Mr. Robert Stryker

If you have any questions or require any additional information, please call Abraham H. Loudermilk, Jr., at (615) 632-6656 in Knoxville, Tennessee.

Sincerely,

M. Paul Schmierbach, Manager
Environmental Quality

Enclosures
cc (Enclosures):
Ms. Nancy Redgate
United States Environmental Protection Agency
Region IV
Toxics Section
345 Courtland Street
Atlanta, Georgia 30365

Mr. Philip L. Stewart, Manager
Chattanooga Field Office
Division of Water Pollution Control
Tennessee Department of Health
and Environment
2501 Milne Street
Chattanooga, Tennessee 37406-3399

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

ENCLOSURE 2

PCB SAMPLING GRID
ANALYTICAL RESULTS
LOW VOLUME WASTE TREATMENT POND
SEQUOYAH NUCLEAR PLANT

Sample Point	PCB Conc., ppm
PCB-1B	1.2
PCB-2	0.39
PCB-3	3.98
PCB-4A	1.74
PCB-5	7.43
PCB-6	No Sample
PCB-7	2.26
PCB-8	0.18
PCB-9	<0.1
PCB-10	69.97
PCB-11	9.0
PCB-12	15.1
PCB-13	10.27
PCB-14	1.34
PCB-15	12.38
PCB-16	9.43
PCB-17	2.66
PCB-18	0.58
PCB-19	No Sample

Note:

1. PCB sample points 1 and 4 orginally fell on top of the pond s dike and were relocated to within the pond's interior. Consequently these points were renumbered as 1B and 4A.

2. Sample point 1B fell so close to sample point 6 that PCB-6 was not sampled.

3. Sample point 19 fell on top of the pond's dike and was not relocated. Therefore, PCB-19 was not sampled.

ENCLOSURE 3

SEQUOYAH NUCLEAR PLANT
LOW VOLUME WASTE TREATMENT POND

PCB CONCENTRATIONS FOR
PCB-10 CORE SAMPLE
IN TWO-INCH INCREMENTS

Sample Increment	PCB Conc., ppm
PCB-10, 2-inch depth	69.97
PCB-10, 4-inch depth	<0.10
PCB-10, 6-inch depth	1.30
PCB-10, 8-inch depth	<0.10
PCB-10, 10-inch depth	<0.10

ENCLOSURE 4

SEQUOYAH NUCLEAR PLANT
LOW VOLUME WASTE TREATMENT POND

PCB CONCENTRATIONS IN
TWO-INCH SEDIMENT SAMPLES
IMMEDIATELY SURROUNDING PCB-10

Sample Point	PCB Conc., ppm
15 A	20
33 A	91
81 A	39
15 B	52
33 B	110
81 B	9.8
15 C	16
33 C	5
81 C	120
15 D	2.5
33 D	4.5
15 E	37
33 E	100
81 E	24
15 F	74
33 F	4.1
81 F	0.91

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