Official

SEP 27 1988

Virginia Electric and Power Company
ATTN: Mr. W. R. Cartwright, Vice President,
Nuclear Operations
P. O. Box 26666
Richmond, VA 23261

Gentlemen:

SUBJECT: DOCKET NOS. 50-280 AND 50-281, CONFIRMATORY MEASUREMENT RESULTS, SUPPLEMENT TO INSPECTION REPORT NOS. 50-280/88-13 AND 50-281/88-13

As part of the NRC Confirmatory Measurements Program, spiked liquid samples were sent on June 2, 1988, to your Surry facility for selected radiochemical analyses. We are in receipt of your analytical results transmitted to us by your letter dated August 8, 1988, and the following comparison of your results to the known values are presented in Enclosure 1 for your information. The acceptance criteria for the comparisons are listed in Enclosure 2.

In our review of these data all comparative results were in agreement. These data should be reviewed in greater detail by cognizant staff members for any significant trends in the data among successive years in which samples have been analyzed by your facility.

Mr. B. Garber of your Surry facility staff, was informally notified of these results by telephone conversation on September 19, 1988.

These results and any results from previous years pertaining to these analyses will be discussed at future NRC inspections.

Sincerely,

Original Signed By
D. M. Collins

Douglas M. Collins, Chief
Emergency Preparedness and
Radiological Protection Branch
Division of Radiation Safety
and Safeguards

Enclosures:
1. Confirmatory Measurement Comparisons
2. Criteria for Comparing Analytical Measurements

cc w/encls:
D. L. Benson, Station Manager
N. E. Hardwick, Manager - Nuclear Programs and Licensing
Commonwealth of Virginia

bcc w/encls: (See page 2)

IE C6

bcc w/encls:
NRC Resident Inspector
DRS Technical Assistant
Document Control Desk

RII	RII	RII
PStoddart	JKahle	FCantrell
9/21/88	9/21/88	9/26/88

ENCLOSURE 1

CONFIRMATORY MEASUREMENT COMPARIONS OF H-3, Fe-55, Sr-89, AND Sr-90 ANALYSES
FOR SURRY NUCLEAR PLANT ON AUGUST 8, 1988

Isotope	Licensee (uCi/ml)	NRC (uCi/ml)	Resolution	Ratio (Licensee/NRC)	Comparison
H-3	1.95 E-05	2.05 ± 0.04 E-05	51	0.95	Agreement
Fe-55	1.90 E-05	2.01 ± 0.04 E-05	50	0.95	Agreement
Sr-89	1.50 E-04	1.54 ± 0.05 E-04	31	0.97	Agreement
Sr-90	1.00 E-05	9.30 ± 0.37 E-06	25	1.08	Agreement

ENCLOSURE 2

CRITERIA FOR COMPARING ANALYTICAL MEASUREMENTS

This enclosure provides criteria for comparing results of capability tests and verification measurements. The criteria are based on an empirical relationship which combines prior experience and the accuracy needs of this program.

In these criteria, the judgment limits denoting agreements of disagreement between licensee and NRC results are variable. This variability is a function of the NRC's value relative to its associated uncertainty, referred to in this program as "Resolution"[1] increases, the range of acceptable differences between the NRC and licensee values should be more restrictive. Conversely, poorer agreement between NRC and licensee values must be considered acceptable as the resolution decreases.

For comparison purposes, a ratio[2] of the licensee value to the NRC value for each individual nuclide is computed. This ratio is then evaluated for agreement based on the calculated resolution. The corresponding resolution and calculated ratios which denote agreement are listed in Table 1 below. Values outside of the agreement ratios for a selected nuclide are considered in disagreement.

[1] Resolution = $\frac{\text{NRC Reference Value for a Particular Nuclide}}{\text{Associated Uncertainty for the Value}}$

[2] Comparison Ratio = $\frac{\text{Licensee Value}}{\text{NRC Reference Value}}$

TABLE 1

Confirmatory Measurements Acceptance Criteria
Resolutions vs. Comparison Ratio

Resolution	Comparison Ratio for Agreement
<4	0.4 - 2.5
4 - 7	0.5 - 2.0
8 - 15	0.6 - 1.66
16 - 50	0.75 - 1.33
51 - 200	0.80 - 1.25
>200	0.85 - 1.18