



WRD-LA-211

Westinghouse
Electric Corporation

Water Reactor
Divisions

Box 355
Pittsburgh Pennsylvania 15230

September 19, 1980

U. S. Nuclear Regulatory Commission
Office of Nuclear Regulation
Division of Reactor Licensing
Washington, D.C. 20555

Attention: Mr. Robert W. Reid, Chief
Operating Reactors Branch #4

Gentlemen:

Subject: Annual Report - License No. TR-2, Docket 50-22

The Westinghouse Electric Corporation transmits herewith the attached report, "Annual Inspection of Retired WTR per License TR-2" for 1980. This report has been prepared in compliance with the requirement of Facility License No. TR-2, Docket 50-22. The status of the retired facility remains the same as it was at the time of the last report.

If you have any questions regarding this matter, please write to me at the above address or telephone me on 412/373-4652.

Very truly yours,

Ronald P. DiPiazza, Manager
NES License Administration

Attachment

Copies Transmitted: 3 notarized & 10 conformed

COMMONWEALTH OF PENNSYLVANIA) ss.
COUNTY OF ALLEGHENY)

Sworn and subscribed before me this

22 day of September, 1980

Notary Public

My Commission expires

Robert L. Devlin, Notary Public
Monroeville Borough, Allegheny County
My Commission Expires Apr. 15, 1982
Member, Pennsylvania Association of Notaries

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ANNUAL INSPECTION OF
RETIRED WTR PER NRC LICENSE TR-2

During the period August 14 through August 29, 1980, the facilities of the retired Westinghouse Testing Reactor (WTR), retained under NRC License TR-2, were entered for the purpose of conducting the annual inspection and for performing any preventive maintenance required. Those personnel entering the facilities for the purpose of conducting the inspection were: W. R. Ellis, Manager, Administration; M. J. Kabo, Manager, Works Engineering; D. T. Galm, Manager, Engineering Services; W. D. Meikle, Safety Engineer; and B. L. Hartung, Senior Health Physics Technician. The findings and action taken are summarized below:

1. During the last five (5) years, entries have been made into the vapor container on a 1-2 month basis to ascertain if significant moisture was accumulating on the floor. Actions were taken to reduce this accumulation including covering the canal with plastic sheeting and polyurethane boards; installing two (2) dehumidifiers; and installing a sump pump in a small hole in a low area of the floor. These actions have proven extremely effective because the humidity within the vapor container is being maintained quite low and very little accumulation of water has been observed during the periodic inspections.
2. The overall condition of the vapor container was good and no moisture was observed on any walls, whether above or below grade. Visual inspection of the interior surface showed little or no increased deterioration of the surface coating. Some rusting was observed on the interior bottom portion of this vapor shell skin, but this condition was not significantly changed from the last several years. The exterior surface had been painted in mid-1976 and its condition is still good. Therefore, no action is deemed necessary relative to the structural stability of the vapor container.
3. No work was done under the water in the canal since the last annual report (submitted September 25, 1979) so the conditions remain unchanged. The air space between the top of the canal wall and the waste level was measured and found to be 16.0 inches. This is essentially the same level as was measured the last several years.

In January, 1979 a water level indicator was installed in the WTR canal and was adjusted to alarm when the water level drops two (2) inches. Since installation, the alarm has never been activated due to low water. During this annual inspection, the alarm was manually activated and responded properly, i.e., audible alarm and printout in the Security Control Center and audible and visual alarm in the Health Physics Office.

As noted in Table 1 of this report, the canal water was sampled and found to have a gross beta-gamma activity of $2.27 \times 10^{-4} \mu \text{Ci/Ml}$. This is very close to last years value of $2.52 \times 10^{-4} \mu \text{Ci/Ml}$ and the 1978 value of $2.85 \times 10^{-4} \mu \text{Ci/Ml}$.

4. Overall housekeeping within the vapor container remains satisfactory. No additional floor tile have come loose and no other debris was observed on the floor.
5. The submarine type entrance doors on the east and west side of the vapor container were found to be locked at the time of entry, as were the doors leading into the Rabbit Pump room and Sub-Pile room and the cover over the Primary Coolant Pipe Tunnel. The areas had to be unlocked to permit access for this inspection, but were relocked when the inspection was completed.
6. The valve on the drain line on the bottom of the reactor vessel was inspected and found to be in the open position, thereby assuring venting of the vessel. The butterfly valves in the ventilation ducts in the Truck Lock were inspected and found to be closed.
7. The absolute filter through which the primary system piping breathes into the Annex was removed and inspected. A new filter had been installed in September, 1979 and this overall condition was good.
8. As noted in Item 1, periodic entries were made into the vapor container during the past year. Records are maintained by the Manager, Engineering Services, which indicate the date and time of entries, who made the entries and the purpose of each entry.
9. There have been no changes in management relative to the administration of License TK-2 since the 1978 annual report.
10. The inspection of the snake pit (primary coolant pipe tunnel) surrounding the vapor container indicated that the depth of infiltrated water had increased from 5.5 inches in September, 1979 to 13 inches now. This represents a total volume of 8000 gallons and an increase of 4300 gallons in the last year. Although the beta-gamma activity of this water is low ($9 \times 10^{-7} \mu \text{Ci/Ml}$), as much water as possible will be removed and processed through our ion exchange system before the end of this year.
11. The results of the radiological survey are shown in Table I, attached. A general review of the data obtained during the surveys conducted since 1963 indicate that the radiation and contamination levels are relatively stable. Frequently some scatter is seen in the data which is attributed to sampling techniques, sensitivity of counting equipment used and the relatively low levels of activity present. Any slight increase in a specific set of data from year to year is not considered to be significant.

Dates: 8-14-80
thru
8-20-80

TABLE 1

RADIATION AND CONTAMINATION AREAS SURVEY REPORT

WTR/TR-2

Reference: WTR-172
Appendix A
Table I (Revised)¹

Locations	Radiation Levels ²		B-γ Contamination Levels ³		
	B-γ mr/hr	Surface dpm/100 cm ²	Air μCi/ml	Water μCi/ml	
I. Reactor Building					
1. 16 ft. Elevation	<1	260	1.3x10 ⁻¹²	NA ⁽⁴⁾	
2. Rabbit Pump Room (Gen. Background)	<1	<200	0.6x10 ⁻¹²	NA	
3. Sub-Pile Room (Gen. Background)	8.	840	0.2x10 ⁻¹²	NA	
4. Reactor Top (Gen. Background)	<1	<200	0.8x10 ⁻¹²	NA	
5. Reactor Top Over-Closed Vessel	<1	<200	0.7x10 ⁻¹²	NA	
6. Reactor Top around Trench	<1	<200	0.2x10 ⁻¹²	NA	
7. Canal Wall Top	<1	300	NA	NA	
8. Canal Water	5.	NA	NA	2.27x10 ⁻⁴	
9. Pit-PC Tunnel 16' Elevation	<1	210	0.7x10 ⁻¹²	NA	

NOTES:

1. Table 1 Revised to Delete areas eliminated by license changes (Docket 50-22).
2. General Background Values for areas tabulated. (Maximum levels may be higher on contact.)
3. Average Values for areas tabulated.
4. NA = Not Applicable