

ANNUAL INSPECTION OF

RETIRED WTR PER NRC LICENSE TR-2

During the period August 23 through September 16, 1982, 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: D. T. Galm, Manager, Health and Safety Services; R. G. Kitzer, Jr., Manager, Industrial Hygiene and Safety; C. B. Speicher, Plant Engineer; A. W. Turk, Jr., Site Fire Administrator; and B. L. Hartung, Senior Radiological Technician.

The findings and action taken are summarized below:

1. During the last seven (7) years, entries have been made into the vapor container on a periodic 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 on the floor. These actions continue to prove extremely effective because the humidity within the vapor container is being maintained at a low level and essentially no 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. Therefore, no action is deemed necessary relative to the structural stability of the vapor container.

The exterior surface of the vapor container was painted in mid-1976 and, although its condition is still acceptable, a contract has been awarded to have the vapor container repainted in October, 1982.

3. No work was done under the water in the canal since the last annual report (submitted October 16, 1981) so the conditions remain unchanged.

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 I of this report, the canal water was sampled and found to have a gross beta-gamma activity of 2.05×10^{-4} $\mu\text{Ci/ml}$. This is very close to last years' value of 1.97×10^{-4} $\mu\text{Ci/ml}$ and the 1980 value of 2.27×10^{-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, the 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 replaced.
8. As noted in Item 1, periodic entries were made into the vapor container during the past year. Records are maintained by the Manager, Health and Safety Services, which indicate the date and time of entries, who made the entries and the purpose of each entry.
9. The following changes in management relative to the administration of License TR-2 were made since the submission of the 1981 annual report:
 - a. W. R. Ellis, Manager, Administration, retires from Westinghouse effective October 1.
 - b. D. T. Galm, formerly Manager, Engineering Services and who reported to W. R. Ellis, was appointed Manager, Health and Safety Services reporting to J. Graham, Manager, Nuclear Safety and Reliability. Mr. Galm retains responsibility for Site Industrial Hygiene and Safety, including radiological protection.
 - c. M. J. Kabo, Manager, Works Engineering and who reported to W. R. Ellis, retains his former responsibilities and now reports to J. E. Yingling, Manager, Technology Department.
10. The inspection of the snake pit (primary coolant pipe tunnel) surrounding the vapor container indicated that 8350 gallons of water with an activity of 1.1×10^{-6} $\mu\text{Ci/ml}$, was in the tunnel. At the time of the 1981 inspection, 5500 gallons of water was in the tunnel and was not removed. Therefore, the increase in water volume between September, 1981 and September, 1982 is 2850 gallons. This water will be processed through our ion exchange system and discharged in October, 1982.
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.

Survey Dates: 8/23/82
to
9/9/82

TABLE 1

RADIATION AND CONTAMINATION AREAS SURVEY REPORT

Retired WTR Facility
License TR-2

Reference: WTR-172

Locations	B-γ Contamination Levels*				
	Radiation Levels		Surface	Air	Water
	B-γ	mr/hr	dpm/100 cm ²	μCi/ml	μCi/ml
I. Reactor Building					
1. 16-ft Elevation - General Background	< 1		240	1.3 x 10 ⁻¹² (East Side)	NA
2. Rabbit Pump Room - General Background	< 1		< 200	0.9 x 10 ⁻¹²	NA
3. Sub-Pile Room - General Background	7		520	0.7 x 10 ⁻¹²	NA
4. Reactor Top - General Background	< 1		< 200	1.4 x 10 ⁻¹²	NA
5. Reactor Top - Over Closed Vessel - General Background	< 1		< 200	1.2 x 10 ⁻¹²	NA
6. Reactor Top - Around Trench - General Bkgd.	< 1		< 200	2.4 x 10 ⁻¹²	NA
7. Canal Wall Top	< 1		250	NA	NA
8. Canal Water	5.5		NA	NA	2.05 x 10 ⁻⁴
9. Pit-PC Tunnel 16-ft Elevation	< 1		< 200	0.7 x 10 ⁻¹²	NA

* = Average Values

NA = Not applicable