

ANNUAL OPERATING REPORT FOR 1984  
AS REQUIRED BY TECHNICAL SPECIFICATIONS  
FOR THE WESTINGHOUSE NUCLEAR TRAINING REACTOR  
FACILITY LICENSE NO. R-119  
DOCKET NO. 50-87

1. NARRATIVE SUMMARY

The Westinghouse Nuclear Training Reactor was operated in accordance with conditions, requirements and Technical Specifications incorporated into the Facility License during 1984. Routine operations included training for utility customers, training for licensed operator candidates and reactivity manipulations in support of the Facility's Licensed Operator Requalification Program.

No changes were made in the facility design or performance characteristics relating to reactor safety.

During 1984, the WNTR License No. R-119 was renewed for twenty years. The renewal documents required major changes in the Technical Specifications and Final Safety Analysis Report. Minor revisions to the Operator Requalification Program and Security Plan were also submitted and approved. A revised Emergency Plan was also approved and implemented during 1984.

2. ENERGY GENERATED AND HOURS OPERATIONAL

The reactor generated 32,438 watt-hours of energy and was operational for 1530 hours during 1984.

3. INADVERTENT REACTOR TRIPS

There were a total of 159 inadvertent reactor trips during 1984. One hundred thirty-eight of these trips were due to trainee error and 21 were due to equipment malfunctions. The number of inadvertent trips depends directly on the number of trainees utilizing the training reactor.

4. SUMMARY OF MAJOR MAINTENANCE OPERATIONS

Significant maintenance / surveillance during 1984 were the annual control rod and fuel inspections, repainting and preservation of the I-beam reactor tank supports, replacement of C-2 gamma detector, and the design, building and installation of an electronic

compensating voltage network for the CIC's. Results of the annual surveillance compared satisfactorily with previous examinations. Repaired and replaced equipment tested satisfactorily prior to use during operations.

The remaining maintenance was routine and was both scheduled and unscheduled in nature. The maintenance consisted of removing, replacing or repairing worn or failed system components. In no case were safety system functions for the reactor impaired or jeopardized. The maintenance is summarized as follows:

- a. inspected and cleaned dump and reactor tanks
- b. fuel elevator pully repaired
- c. 15 volt power supply in spare log N Amp replaced
- d. refurbished demineralizer pump
- e. calibrated moderator temperature and level detectors
- f. repaired emergency power supply for NTR Emergency Alarm
- g. rebuilt 10" dump valve solenoid
- h. replace B1-A count rate-cutout meter
- i. installed Run Time meter
- j. replaced 24 hour clock on reactor
- k. replaced B-2 Source range channel Amp
- l. replaced kinked source cable
- m. repaired and calibrated reactivity computer
- n. refurbished count rate cut-out relays
- o. repaired control rod stop plate
- p. repaired sump pump

#### 6. SUMMARY OF RADIOACTIVE EFFLUENT DISCHARGES

During the 1984 calendar year two discharges of radioactive effluents were made to the sanitary sewer system. Table 1 describes each discharge.

TABLE 1

#### Liquid Radioactive Effluent Releases to Sanitary Sewer System

| <u>Date</u> | <u><math>\alpha</math></u>         | <u><math>\beta</math></u>   | <u>Value</u> | <u>Total Activity Released</u> |
|-------------|------------------------------------|-----------------------------|--------------|--------------------------------|
| 4/10/84     | $\leq 2.98 \times 10^{-11}$ mci/ml | $4 \times 10^{-9}$ mci/ml   | 37 gallons   | $5.64 \times 10^{-4}$ mci      |
| 10/17/84    | $8.2 \times 10^{-10}$ mci/ml       | $9.2 \times 10^{-8}$ mci/ml | 50 gallons   | $1.76 \times 10^{-2}$ mci      |

The releases were moderator / shield water from the dump tank. For all releases, the requirements and limits of 10CFR 20.303 were satisfied.

7. SUMMARY OF REPORTABLE OCCURENCES

There were no reportable occurrences at the WNTR during 1984.