UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report No. 50-321/82-27

Licensee: Georgia Power Company
P. O. Box 4545
Atlanta, GA 30303

Facility Name: E. I. Hatch Unit I

Docket No. 50-321

License No. DPR-57

Inspection at Hatch site near Baxley, Georgia

Inspector: Frank Jape 9/1/82
F. Jape Date Signed

Approved by: A R Herdt 9/2/82
A. R. Herdt, Chief Date Signed
Engineering Inspection Branch
Division of Engineering and Technical Programs

SUMMARY

Inspection on August 18-19, 1982

Areas Inspected

This special, announced inspection involved 15 inspector-hours on site in the area of followup of reportable occurrence 50-321/82-60.

Results

Of the area inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

   Licensee Employees

   *H. C. Nix, Plant Manager
   T. Greene, Assistant Plant Manager

   Other licensee employees contacted included technicians and operators.

   NRC Resident Inspector

   *R. F. Rogers, Senior Resident Inspector

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on August 19, 1982, with those persons indicated in paragraph 1 above. The Plant Manager acknowledged the inspector's findings without significant comment.

3. Licensee Action on Previous Enforcement Matters

   Not inspected.

4. Unresolved Items

   Unresolved items were not identified during this inspection.

5. LER 50-321/82-60 Followup (92700)

   On July 3, 1982, while operating at rated power, a reactor trip occurred. The ensuing transient was considered normal except that the safety-relief valves did not open at their setpoint. All other safety systems functioned as designed. The sequence of events and the pressure transient are described below. These data were obtained from records at the facility and interviews with personnel who were on duty at the time of the event.

   a. Sequence of Event

      073649 CST, Reactor Tripped from receipt of Channel A and B high pressure trip signal.

      073703 CST, MSIV's closed due to Group 1 isolation as a result of reactor water level decrease to -30 inches (See Fig. 3 for water level reference). The HPCI and RCIC started automatically and the recirc pumps tripped off.

073719 CST, Main Turbine Generator Manually Tripped.

074808 CST, Safety Relief Valves L,F and G opened at Reactor pressure of approximately 1180 psig.

074821 CST, Safety Relief valve G cycled closed and opened five times while L, F remained open.

074832 CST, MSIV's manually opened and Safety Relief valves L, F and G closed automatically.

b. Transient Description

With reactor conditions normal, a trip occurred at 0736 central standard time (CST). The process computer indicates the trip was a high pressure trip. Reactor pressure was at 1005 psig and the high pressure trip setpoint was at 1035 psig. The licensee speculated that workmen cleaning the floor near the pressure sensing instrumentation may have bumped the racks, causing the trip. The A and B RPS channels are located on separate panels, but are physically close to each other.

Reactor water level decreased to the low level setpoint of 15 inches soon after the trip and continued to decrease since the main turbine had not yet been tripped off (see Fig. 2 for water level transient). The MSIVs closed automatically when reactor water level decreased to minus 30 inches, HPIC and RCIC started automatically. The recirc pumps tripped off automatically. Reactor water quickly recovered and, upon reaching the high level trip setpoint, the HPIC and RCIC turbines tripped off.

Reactor pressure began increasing with the MSIV's closed (see Fig. 1 for primary pressure transient). The wide range pressure records indicated a maximum pressure of about 1180 psig. The operator elected to display the GEMAC pressure indicator on the process computer digital display. This indicator displayed a maximum of 1200 psig. Two other pressure indicators also displayed a maximum of 1200 psig.

Safety relief valves L, F and G automatically opened 11 minutes and 59 seconds after the reactor trip. Pressure decreased to 945 psig and the MSIVs were manually opened at this time. Pressure control was then taken by the EHC system and normal recovery was initiated by the operators.

The three safety relief valves that opened are all on "C" main steam line. It is speculated that, when one of the three valves opened, the resulting vibrations may have aided in causing the other two valves to actuate.

c. Licensee Actions

The NRC incident response center was informed of this event at 9:17 a.m., EST, on July 3. On July 8, Georgia Power Company representative and NRC Region II personnel met to discuss the investigation and corrective actions taken and planned. The actions included:

(1) During the subsequent cooldown, the eleven SRVs were manually actuated and all were found to operate satisfactorily.

(2) The pilot valve assemblies from all eleven SRVs were removed and sent to Wyle Laboratories for testing. Test results were reported in Test Report No. 46270-0 and are summarized as follows:

(a) each valve was cycled 5 to 8 times after receipt at Wyle Laboratories
(b) six passed on first run, four on second run, and one on third run without setpoint adjustment
(c) one setpoint was adjusted upward on fifth run because it was approaching the lower limit.
(d) two valves had their setpoints changed, one from 1100 psig to 1080 psig and the other from 1080 psig to 1100 psig. These changes were done at Georgia Power Company's request.

(3) The main valve sections from two SRVs were removed and examined to ascertain if the cause for the malfunction could be determined (See Report 50-321/82-21 for details of this examination). No evidence of mechanical wear or binding of components was found.

(4) The Plant Review Board and the Safety Review Board met to review the event and concluded restart was acceptable based on their evaluations of the transient, corrective actions taken and the planned SRV periodic cycling and inspection, as agreed in GPC letter to NRC, dated July 9, 1982.

(5) Target Rock Corporation and Wyle Laboratories concurred in the periodic, manual cycling of the SRVs to minimize the upward setpoint drift experienced on this event.

The actions taken to date should reduce the probability for malfunctioning of the SRVs.

During the transient, no Technical Specification Safety Limits were exceeded. A violation for failure to control reactor pressure as required by plant procedures was issued by the Senior Resident Inspector, in Report 50-321/82-25.

The inspector had no additional questions or comments regarding the transient and restart of the facility.

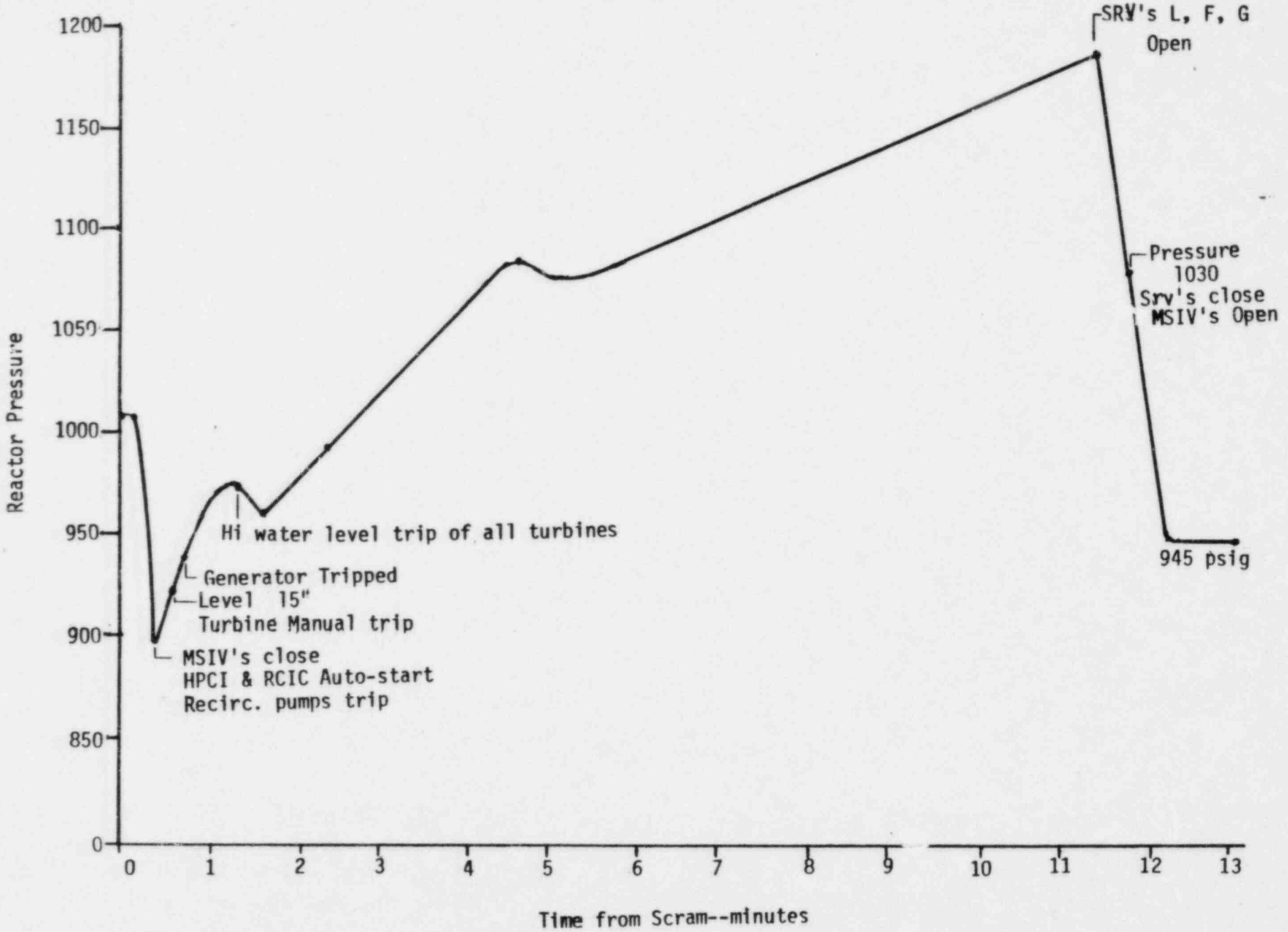

Figure 1 Primary Pressure Transient

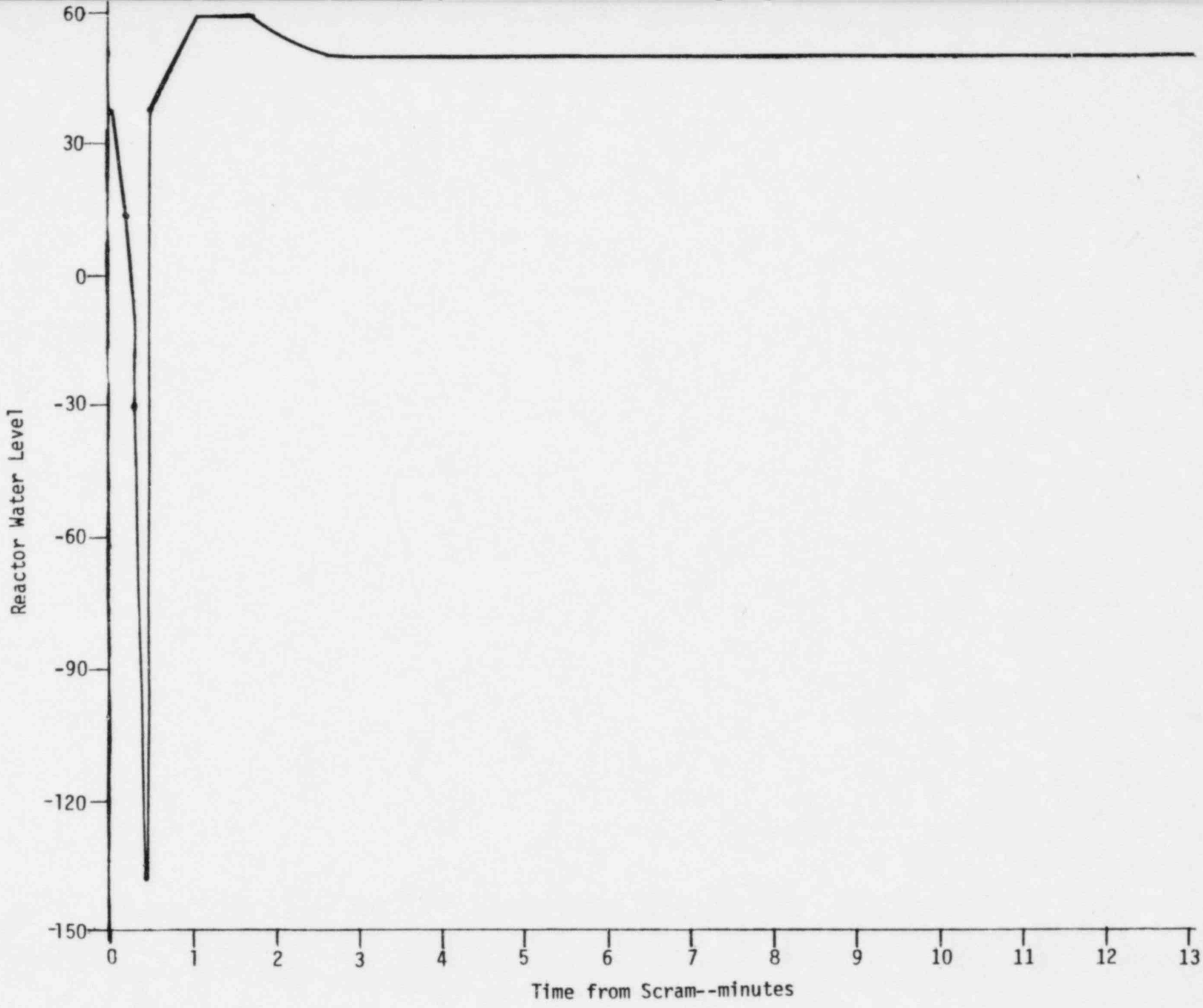

Figure 2 Water Level Transient

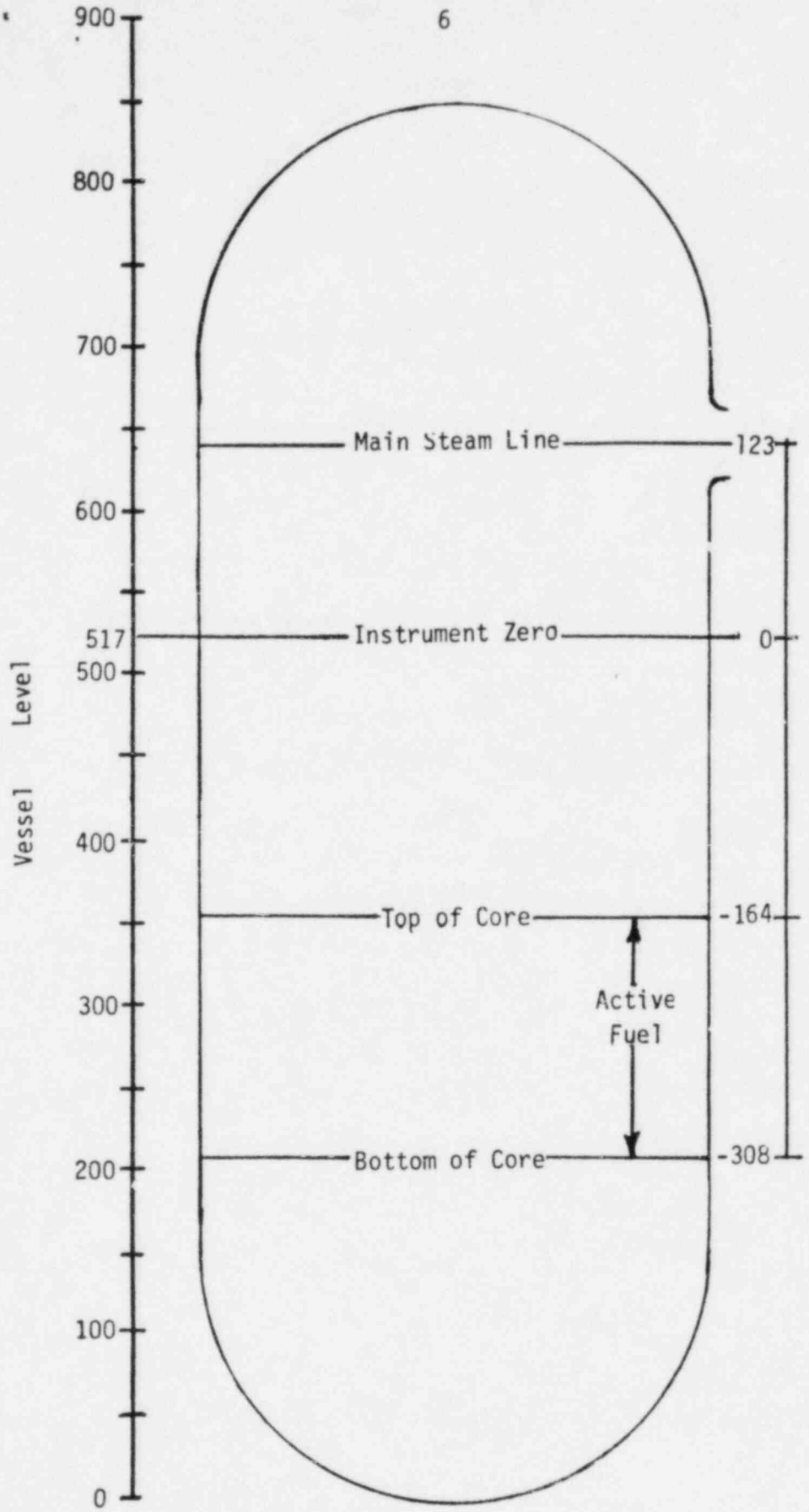

Figure 3 Reactor Vessel Water Level