

1.0 Definitions (Continued)

- AA. Shutdown - The reactor is in a shutdown condition when the reactor mode switch is in the shutdown mode position and no core alternations are being performed. When the mode switch is placed in the shutdown position a reactor scram is initiated, power to the control rod drives is removed, and the reactor protection system trip systems are de-energized.
1. Hot Shutdown means conditions as above with reactor coolant temperature greater than 212°F.
  2. Cold Shutdown means conditions as above with reactor coolant temperature equal to or less than 212°F.
- BB. Simulated Automatic Actuation - Simulated automatic actuation means applying a simulated signal to the sensor to actuate the circuit in question.
- CC. Surveillance Interval - Each surveillance requirement shall be performed within the specified surveillance interval with:
- a. A maximum allowable extension not to exceed 25% of the surveillance interval.
  - b. A total maximum combined interval time for any 3 consecutive intervals not to exceed 3.25 times the specified surveillance interval.
- DD. Fraction of Rated Power (FRP) - The fraction of rated power is the ratio of core thermal power to rated thermal power of 2527 Mwth.
- EE. Transition Boiling - Transition boiling means the boiling regime between nucleate and film boiling. Transition boiling is the regime in which both nucleate and film boiling occur intermittently with neither type being completely stable.
- FF. Fuel Design Limiting Ratio for Exxon Fuel (FDLRX) - The fuel design limiting ratio for Exxon fuel is the limit used to assure that the fuel operates within the end-of-life steady state design criteria. FDLRX assures acceptable end-of-life conditions by, among other items, limiting the release of fission gas to the cladding plenum.
- GG. Dose Equivalent I-131 - That concentration of I-131 (microcurie/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites".

1.0 Definitions (Continued)

- HH. Process Control Program (PCP) - Contains the sampling, analysis, and formulation determination by which solidification of radioactive wastes from liquid systems is assured.
- II. Offsite Dose Calculation Manual (ODCM) - Contains the methodology and parameters used in the calculation of offsite doses due to radioactive gaseous and liquid effluents, and in the calculation of gaseous and liquid effluent monitor alarm/trip setpoints.
- JJ. Channel Functional Test (Radiation Monitor) - Shall be the injection of a simulated signal into the channel as close to the sensor as practicable to verify operability including alarm and/or trip functions.
- KK. Source Check - The qualitative assessment of instrument response when the sensor is exposed to a radioactive source.
- LL. Member(s) of the Public - Shall include all persons who are not occupationally associated with the plant. This category does not include employees of the utility, its contractors, or vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational, or other purposes not associated with the plant.
- MM. Rated Recirculation Pump Speed - is the recirculation pump speed that corresponds to rated core flow ( $98 \times 10^6$  lb/hr) when operating at rated thermal power (dual loop operation).
- NN. Dual Loop Operation - reactor power operation with both recirculation pumps running.
- OO. Single Loop Operation (SLO) - reactor power operation with one recirculation pump running.
- PP. Transient Linear Heat Generation Rate (TLHGR) - The transient linear heat generation rate limit protects against fuel centerline melting and 1% plastic cladding strain during transient conditions throughout the life of the fuel.
- QQ. Fuel Design Limiting Ratio for Centerline Melt (FDLRC) - The fuel design limiting ratio for centerline melt is the limit used to assure that the fuel will neither experience centerline melt nor exceed 1% plastic cladding strain for transient over-power events beginning at any power and terminating at 120% of rated thermal power.
- RR. Linear Heat Generation Rate (LHGR) - The linear heat generation rate is the operating fuel pin power level.

1.1 SAFETY LIMIT (Cont'd.)

B. Core Thermal Power Limit  
(Reactor Pressure is less  
than or equal to 800 psig)

When the reactor pressure is less than or equal to 800 psig or core flow is less than 10% of rated, the core thermal power shall not exceed 25 percent of rated thermal power.

2.1 LIMITING SAFETY SYSTEM SETTING  
(Cont'd.)

When the reactor mode switch is in the refuel or the start-up/hot standby position, the APRM scram shall be set at less than or equal to 15% of rated core thermal power.

3. IRM Flux Scram Trip Setting

The IRM flux scram setting shall be set at less than or equal to 120/125 of full scale.

B. APRM Rod Block Setting

The APRM rod block setting shall be:

S is less than or equal to  $[\.58W_D + 50]$  during Dual Loop Operation or S is less than or equal to  $[\.58 W_D + 46.5]$  during Single Loop Operation.

The definitions used above for the APRM scram trip apply.

In the event of operation of any fuel assembly with a fuel design limiting ratio for centerline melt (FDLRC) greater than 1.0, the setting shall be modified as follows:

S is less than or equal to  $(.58W_D + 50)/FDLRC$  during Dual Loop Operation or S is less than or equal to  $(.58 W_D + 46.5)/FDLRC$  during Single Loop Operation.

The definitions used above for the APRM scram trip apply.

The value of FDLRC shall be set equal to 1.0 unless the actual operating value is greater than 1.0. In which case the actual operating value will be used.

3.5 LIMITING CONDITION FOR OPERATION  
(Cont'd.)

D. Automatic Pressure Relief  
Subsystems

1. Except as specified in 3.5.D.2 and 3.5.D.3 below, the Automatic Pressure Relief Subsystem shall be operable whenever the reactor pressure is greater than 90 psig and irradiated fuel is in the reactor vessel.

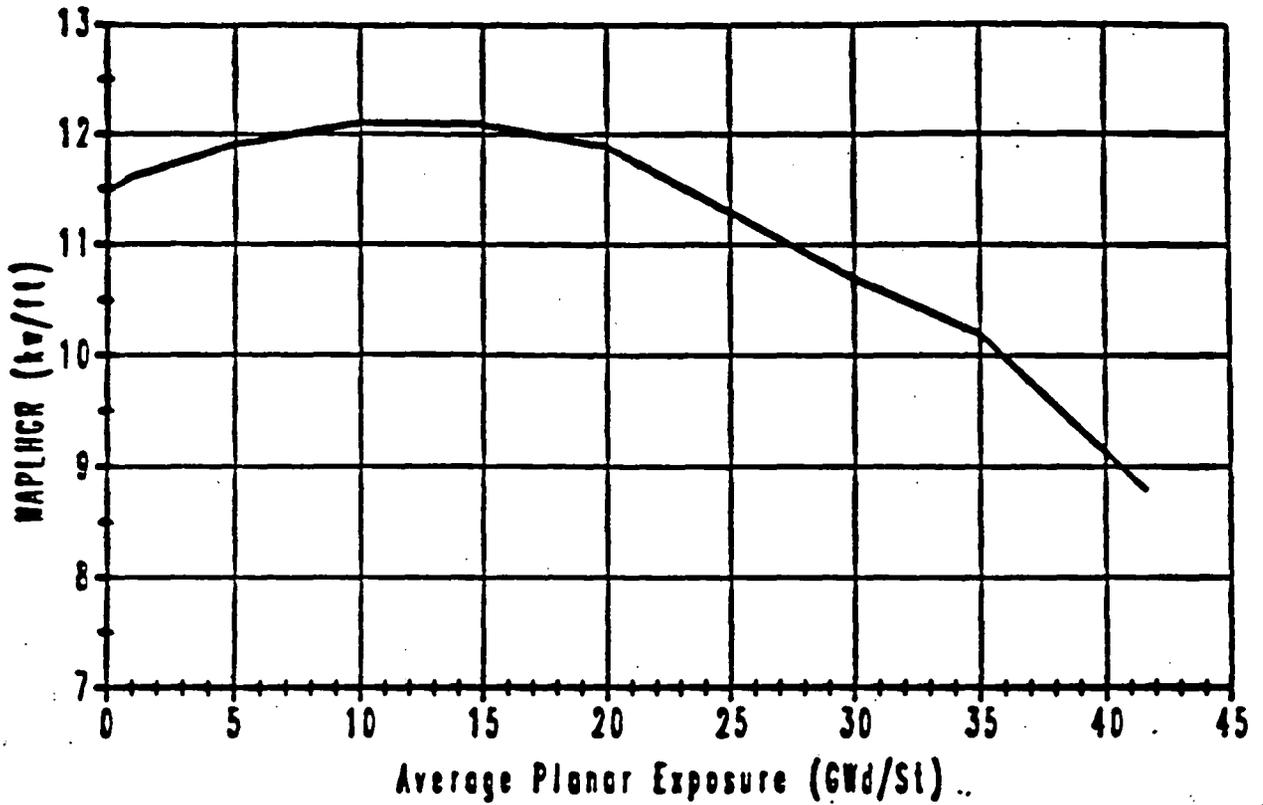
2. From and after the date that one of the five relief valves of the automatic pressure relief subsystem is made or found to be inoperable reactor operation is permissible only during the succeeding seven(7) days provided that during such time the

4.5 SURVEILLANCE REQUIREMENT  
(Cont'd.)

D. Surveillance of the  
Automatic Pressure Relief  
Subsystem shall be  
performed as follows:

1. During each operating cycle the following shall be performed:
  - a. A simulated automatic initiation which opens all pilot valves, and
  - b. With the reactor at pressure each relief valve shall be manually opened. Relief valve opening shall be verified by a compensating turbine bypass valve or control valve closure.
  - c. A logic system functional test shall be performed each refueling outage.
2. When it is determined that one relief valve of the automatic pressure relief subsystem is inoperable, the HPCI subsystem shall be demonstrated to be operable immediately and weekly thereafter.

MAPLHGR VS. AVERAGE PLANAR EXPOSURE  
 GE 8x8 LTAs



The above graph is based on the following bounding MAPLHGR summary for the GE LTAs fuel design:

Average Planar Exposure (GWd/St)	MAPLHGR Limit (kw/ft)
0.2	11.5
1.0	11.6
5.0	11.9
10.0	12.1
15.0	12.1
20.0	11.9
25.0	11.3
30.0	10.7
35.0	10.2
41.6	8.8

Figure 3.5-1  
 (Sheet 3 of 3)