

### 3.5 LIMITING CONDITION FOR OPERATION

#### I. Average Planar LHGR

During steady state power operation, the average linear heat generation rate (LHGR) of all the rods in any fuel assembly, as a function of average planar exposure, at any axial location, shall not exceed the maximum average planar LHGR shown in

Figure 3.5-1 dependent on fuel type. If at any time during operation it is determined by normal surveillance that the limiting value for APLHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the APLHGR is not returned to within the prescribed limits within two (2) hours, the reactor shall be brought to the Cold Shutdown condition within 36 hours. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits.

### 4.5 SURVEILLANCE REQUIREMENT

#### I. Average Planar Linear Heat Generation Rate (APLHGR)

The APLHGR for each type of fuel as a function of average planar exposure shall be determined daily during reactor operation at  $\geq$  25% rated thermal power.

## LIMITING CONDITION FOR OPERATION

## SURVEILLANCE REQUIREMENT

J. Local LHGR

During steady state power operation, the linear heat generation rate (LHGR) of any rod in any fuel assembly at any axial location shall not exceed the maximum allowable LHGR as calculated by the following equation.

$$LHGR_{max} < LHGR_d \left[ 1 - \left( \frac{\Delta P}{P} \right)_{max} \left( \frac{L}{L_T} \right) \right]$$

$LHGR_d$  - Design LHGR  
 = 17.5 kw/ft, 7x7 fuel assemblies  
 = 13.4 kw/ft, 8x8 fuel assemblies  
 8x8 R fuel assemblies

$\left( \frac{\Delta P}{P} \right)_{max}$  - Maximum power spiking penalty

- .037 initial core fuel  
 - .026 reload 1, 7x7 fuel  
 - .022 8x8 fuel  
 .000 8x8 R fuel

$L_T$  - Total Core Length - 12 ft.

$L$  - Axial distance from bottom of core

If at any time during operation it is determined by normal surveillance that the limiting value for LHGR is being exceeded, action shall be initiated within 15 minutes to restore operation to within the prescribed limits. If the LHGR is not returned to within the prescribed limits within two (2) hours, the reactor shall be brought to the Cold Shutdown condition within 36 hours. Surveillance and corresponding action shall continue until reactor operation is within the prescribed limits.

J. Local LHGR

The LHGR as a function of core height shall be checked daily during reactor operation at  $\geq 25\%$  rated thermal power.

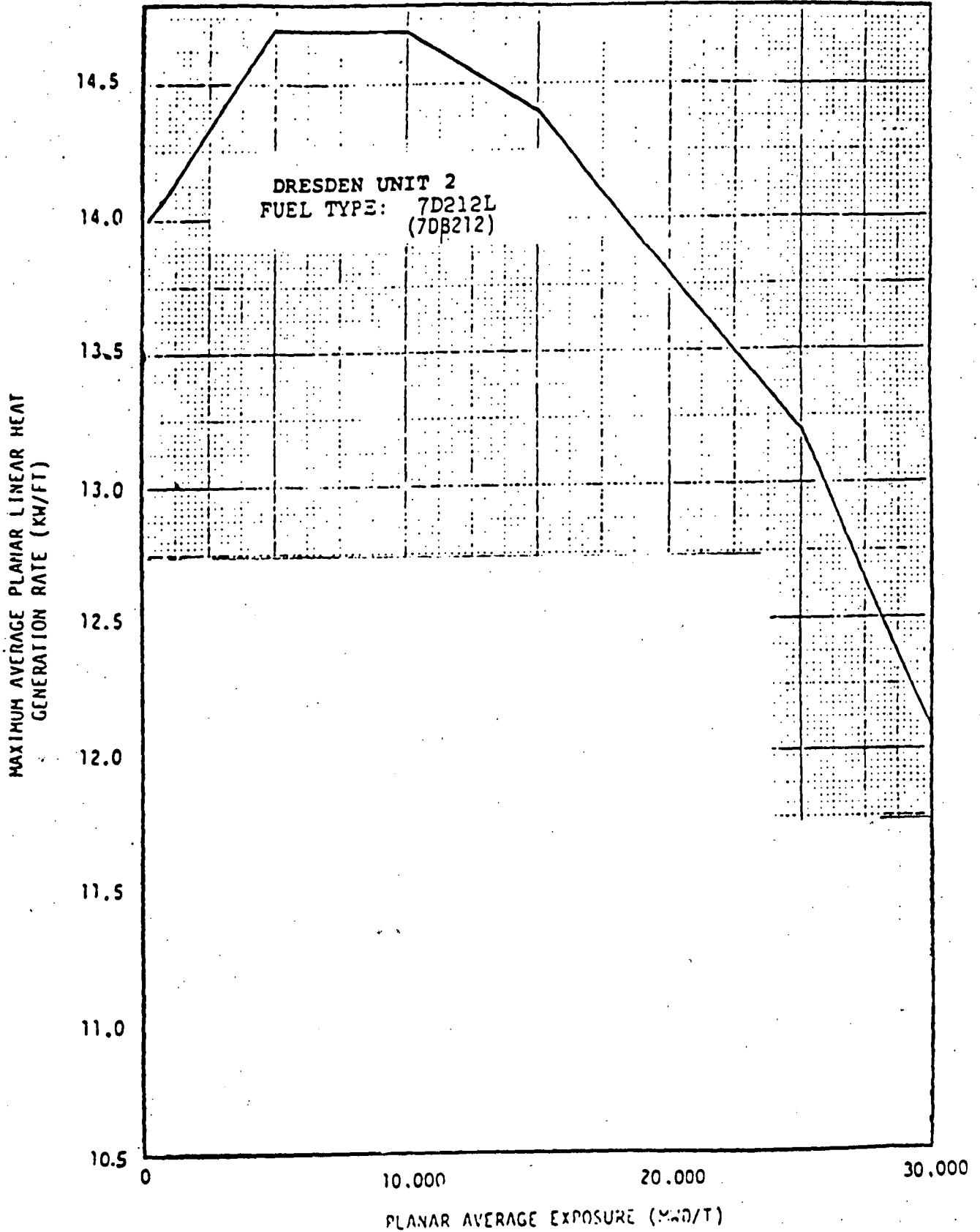


FIGURE 3.5-1  
(Sheet 1 of 3)

MAXIMUM AVERAGE PLANAR LINEAR  
HEAT GENERATION RATE (MAPLIHR)  
VS. PLANAR AVERAGE EXPOSURE

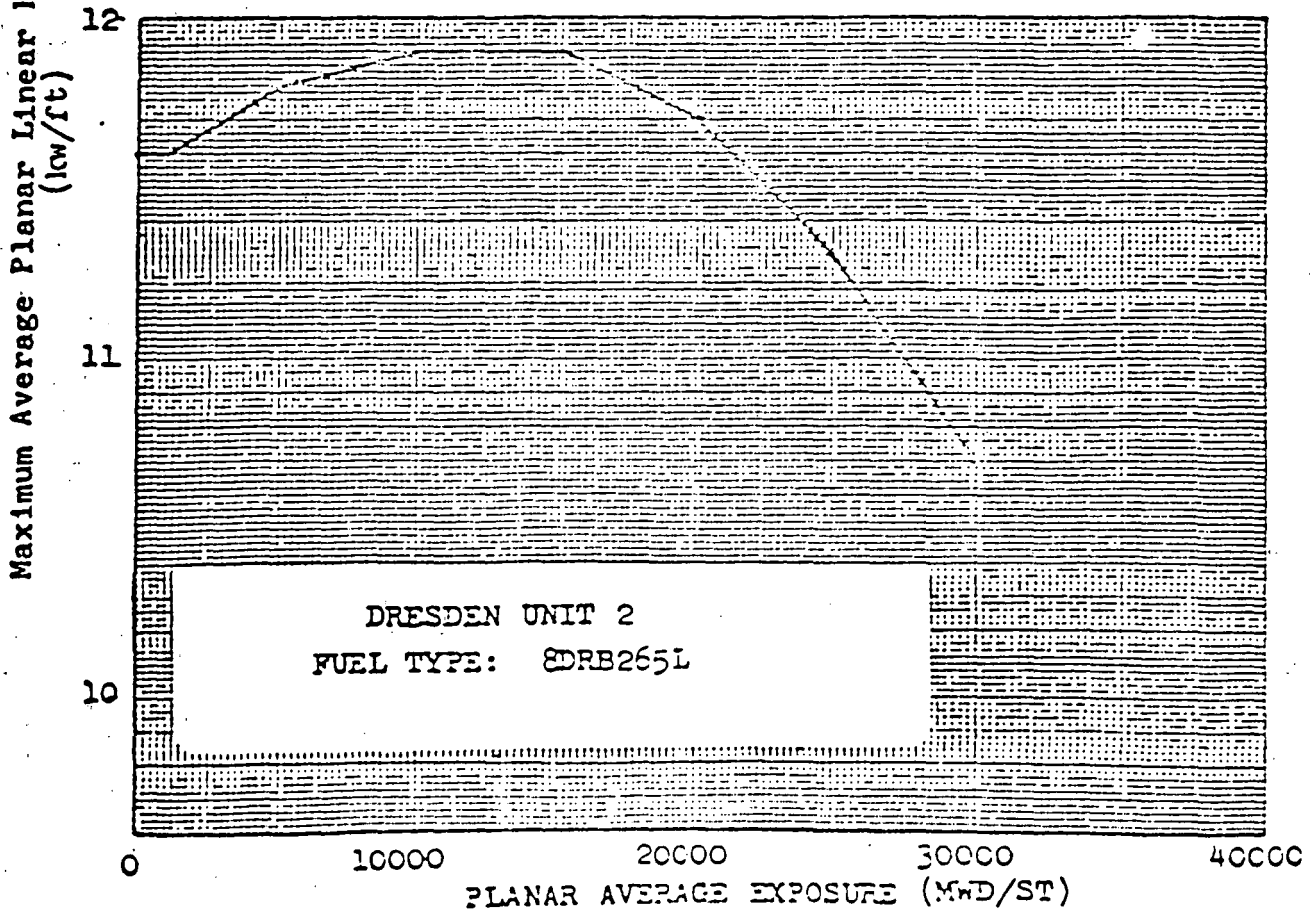
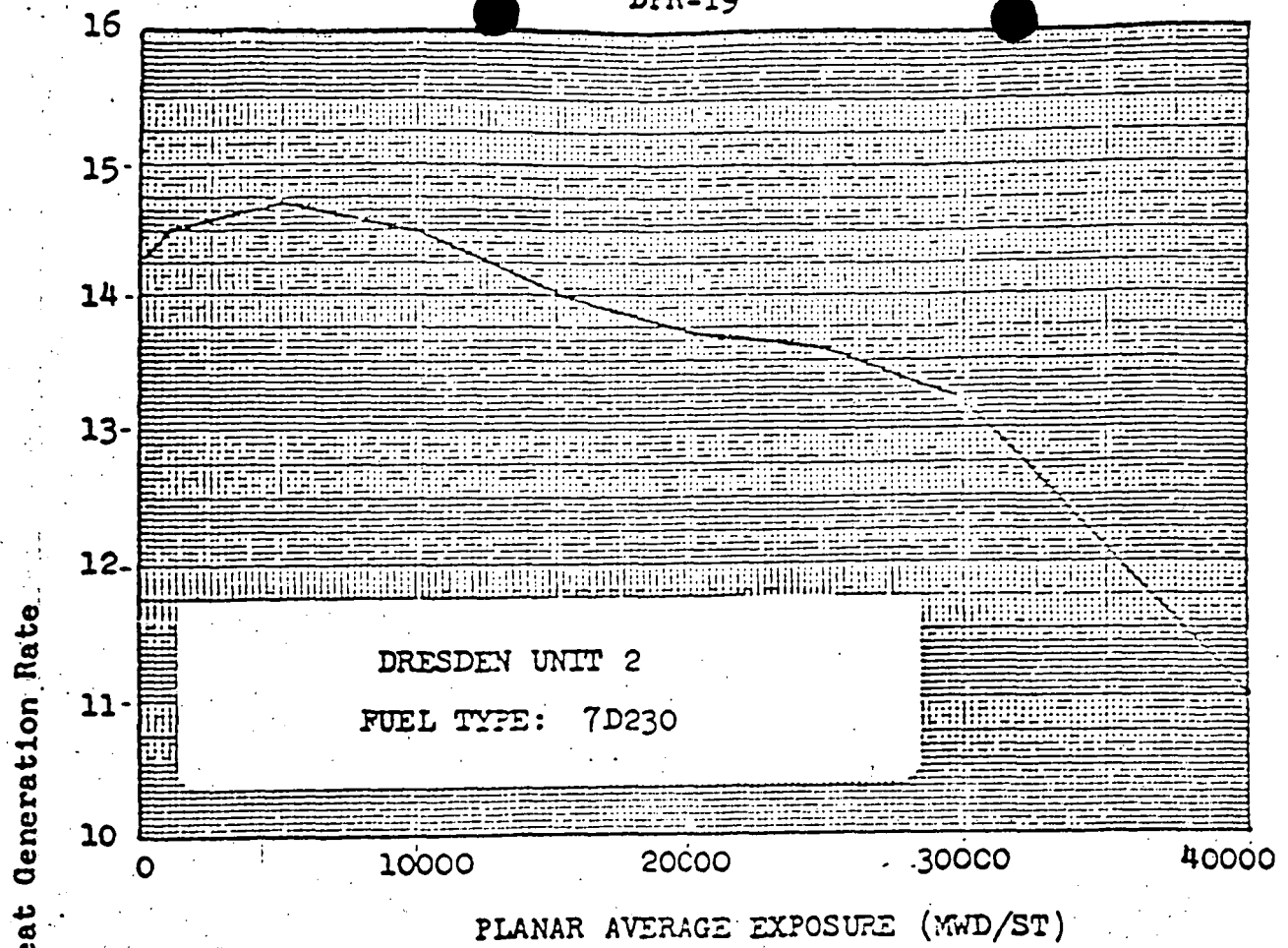


Figure 3.5-1  
(Sheet 2 of 3)

Maximum Average Planar Linear Heat Generation Rate (MAPLHGR)  
vs. Planar Average Exposure

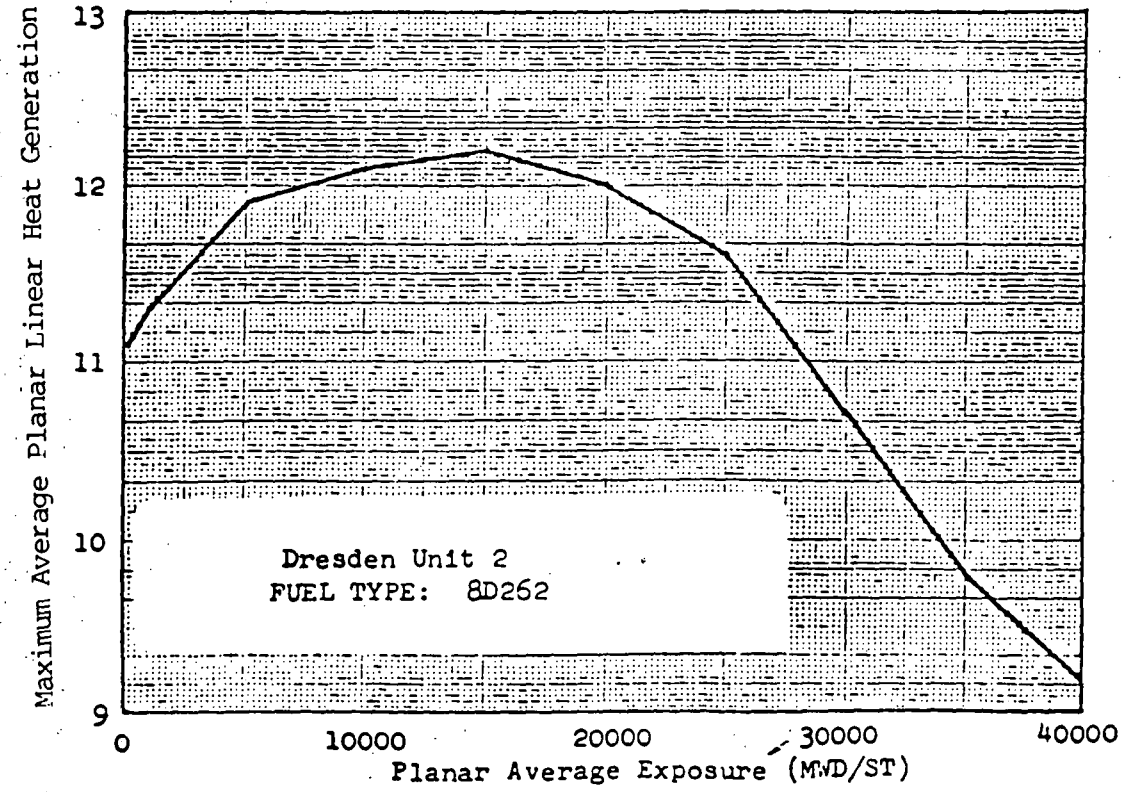
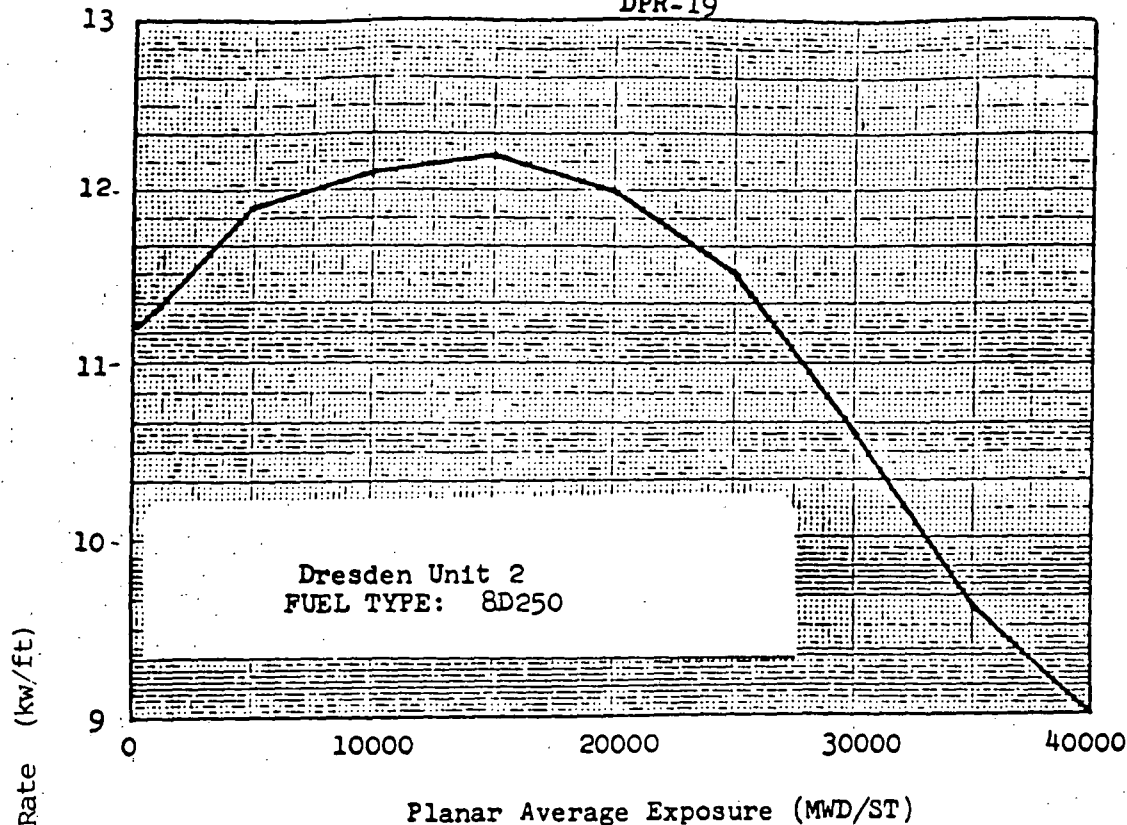


Figure 3.5-1 (Sheet 3 of 3) Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) vs. Planar Average Exposure

Attachment 3

QUAD CITIES UNIT 1

Proposed Technical Specification Page Changes

Replace Pages: 3.5/4.5-9

- Figure 3.5-1 (Sheet 1 of 4)
- Figure 3.5-1 (Sheet 2 of 4)
- Figure 3.5-1 (Sheet 3 of 4)
- Figure 3.5-1 (Sheet 4 of 4)