
PROBLEM 2-6N QUESTION

Analysis Of Reactor Types

NOTE: The use of MathCAD is not required for this problem set; however, now would be a good time to familiarize yourself with MathCAD since it may significantly reduce the work involved with future problems.

This problem set involves calculations that show some typical differences between reactor types.

- 1) Compare average heat deposition rates for seven reactor types: (BWR, PWR(W), PHWR, HTGR, AGR, LMFBR core region (C), and LMFBR axial and radial blanket regions (BA & BR)). Details are:
 - a) Use information in Tables 1-2, 1-3, and 2-3 to find core average values of the linear heat generation rate, q' (kW/m). Do not use the "linear heat rate" row in Table 2-3. Note: 90% of the LMFBR power is deposited in the C region.
 - b) After calculating part a), why are the reactor types listed in the order found in 1)?
 - c) Use your calculate q' to compute the surface heat flux, q'' (kW/m²), and the volumetric heat generation rate, q''' (kW/m³) for the same reactor types.