McMaster University Graduate Study Dr Nik Popov
Engineering Physics Course EP716
Reactor Thermal-Hydraulics Design

Student:	Test #3 Closed Book
Date: 28 Nov 2003	CHF Pressure Drop Two-Phase Flow

Scope:	1. Explain Critical Heat Flux Ratio, Critical Heat Flux Power Ratio, and Critical Power Ratio using appropriate diagrams. [20 points] --- 2. Explain the CHF separate effects encountered in fuel bundles (use the appropriate table format to capture effects of importance and explain their impact). [20 points] --- 3. Summarize and explain the factors that influence the pressure drop in any reactor, and also capture the most important effects in a CANDU reactor. [20 points] --- 4. For a pipe with a sudden contraction from area A1 to area A2, and after a certain length, expansion to area A3, draw a diagram that captures all pressure drop components (explain the trends). [20 points] --- 5. Explain the relationship between void fraction and mass quality using the appropriate diagram (for two-phase flow with no slip, and with slip between he phases). [20 points]