NUCL 40200 Engineering of Nuclear Power Systems

Assignment 10

Refer to Example 7-3 on Pressurizer sizing example in Nuclear System 1;Todreas and Kazimi book. Determine the size of the pressurizer that can accommodate a maximum outsurge of 17,500 kg and a hot leg insurge of 9,700 kg for the conditions of Table 7-3 except the followings:

Mass of maximum outsurge = 17,500 kg
Mass of maximum insurge = 9,700 kg

Cold leg spray expressed as a function of hot leg insurge (f) = 0.01- 0.085

Plot presurizer size (volume in m^3) versus f . Use several f values from 0.01 to 0.085 to get a smooth curve in your calculation.