Special Problem #15

Following the feedforward (w/feedback trim) example in the Chapter 19 of the Control Station "book" for a jacketed reactor, determine process dynamic parameters, disturbance dynamic parameters, and control parameters when the steady-state jacket inlet temperature is 55°C and the controller output is 40%. Use PI control for the feedback control loop, and use the IMC correlation in Control Station to obtain tuning parameters in aggressive mode. Use the dynamic feedforward control method, not the static method.

Show the process of determining the different parameters, the values of the parameters, and the response of the control system to a disturbance that changes the inlet jacket temperature from 55 to 60°C.