Q: The feed stream enters an inlet separator, which removes the free liquids. Overhead gas from the Separator is fed to the Chiller where it is cooled to -20℃, which will be modeled simply as a Cooler (Pressure Drop=35 kPa). The cold stream is then separated in a low-temperature separator (LTS). Overhead gas from the LTS is fed to the heater (Pressure drop=5kPa) where it is heated to 10℃ to meet Sales Gas. FP: Peng Robinson

Feed Stream:

Temperature=15℃

Pressure=6200 kPa

Molar Flow Rate=1440 kmol/h

Methane = 0.7575 , i-Butane 0.0068

Ethane= 0.175 , n-Butane 0.0101

Propane 0.045 , i-Pentane 0.0029

n-Pentane 0.0027

Calculate the duty rejected from the chiller and the duty Absorbed inside the Heater.