

3.6 Peak Load Pricing - Formal

Sunday, January 24, 2021

3:30 PM

$$\pi = p_L(q_L) \cdot q_L + p_H(q_H) \cdot q_H - c q_L - c q_H - k \bar{q}$$

$$q_L, q_H \quad \text{s.t.} \quad q_H \geq q_L$$

1) Ignore constraint

$$\begin{aligned} MR_L &= c \\ MR_H &= c + k \end{aligned} \Rightarrow q_L, q_H, p_L, p_H$$

Check if $q_H \geq q_L$
↳ yes = done
↳ no = step 2

2) Sub $q_H = q_L = q$

$$\max q = p_L(q) \cdot q + p_H(q) \cdot q - (2c + k)q$$

$$\hookrightarrow q_L, p_H, p_L$$