Ⅱ. Modeling – D. Stage Objective Function

- ESS가 없는 연구와의 정산금 비교
  - 전력량 정산금 $\left(f_P(t)\right)$, REC 수익
    - (변경없음) $f_P(t) = Q_{da}(t) * P_{da}(t) + \left(u(t) - Q_{da}(t)\right) * P_{rt}(t)$, $f_{REC} = P_r * u(t)$
  - 변동비 보전 정산금 $\left(f_V(t)\right)$
    - (변경 전) $f_V(t) = \max[\min(z, Q_C) * b_{rt} - \{Q_{da} * P_{da} + (\min(z, Q_C) - Q_{da}) * P_{rt}\}, 0]$
    - (변경 후) $f_V(t) = \max[u(t) * b_{rt}(t) - \{Q_{da}(t) * P_{da}(t) + (u(t) - Q_{da}(t)) * P_{rt}(t)\}, 0]$
  - 기대이익 정산금 $\left(f_E(t)\right)$
    - (변경 전) $f_E(t) = \begin{cases} (\min(Q_{da}, q_{rt}) - \min(\max(\min(z, Q_{da}), Q_C), q_{rt}))(P_{rt} - b_{da}) & Q_{da}(t) \geq Q_c(t) \\ (\min(Q_{da}, q_{rt}) - \min(\max(z, Q_{da}), Q_c, q_{rt}))(P_{rt} - b_{da}) & Q_{da}(t) < Q_c(t) \end{cases}$
    - (변경 후) $f_E(t) = \max[(Q_{da}(t) - u(t))(P_{rt}(t) - b_{da}(t)), 0]$
  - 임밸런스 패널티 $\left(f_{Im}(t)\right)$
    - (변경 없음) $f_{Im}(t) = \begin{cases} -(P_{rt}(t) - b_{rt}(t)) * \max\{u(t) - Q_C(t) - 0.12C, 0\} & P_{rt}(t) \geq 0 \\ -(-b_{rt}(t)) * \max\{u(t) - Q_C(t) - 0.12C, 0\} & P_{rt}(t) < 0 \end{cases}$