1 Un exemple de document horripilant

1.1 Transportation Approach

Next we present a reformulation of the model (1)-(11) using the transportation approach. For the reformulation the following parameters are defined:

cs_{ipzu}: unit cost of production and inventory holding to produce a component i in period k to be mixed in period t to satisfy the demand of period l;

$$cz_{ipts} = vc_{jf} + vc_t^E + \sum_{s=k}^{t-1} hc_{is} + \sum_{b=t}^{l-3} hc_j^E$$

We also define new variables for the model:

z_{iktl} : Amount of component i produced in period k, mixed in period t to satisfy the demand of period l.

The reformulation based on the transportation problem $(F2)$ is as follows:

$$Min \sum_{t=1}^{m} sc_t^E y_t^E + \sum_{t=1}^{m}\sum_{i=1}^{n} sc_{it}y_{it} + \sum_{i=1}^{n}\sum_{k=1}^{m}\sum_{t=k}^{m}\sum_{l=t}^{m} cs_{iktl}z_{iktl} \qquad (1)$$

Subject to:

$$\sum_{i=1}^{n}\sum_{k=1}^{l}\sum_{t=k}^{l} z_{iktl} = d_l^E \qquad \forall l \in T \qquad (2)$$

$$\sum_{i=1}^{n}\sum_{k=1}^{t} z_{iktl} \leq d_l^E y_t^E \qquad \forall t,l \in T, l \geq t \qquad (3)$$

$$st_t^E y_t^E + \sum_{i=1}^{n}\sum_{k=1}^{t}\sum_{l=t}^{m} vt_t^E z_{iktl} \leq Cap_t^E \qquad \forall t \in T \qquad (4)$$

$$\qquad (5)$$