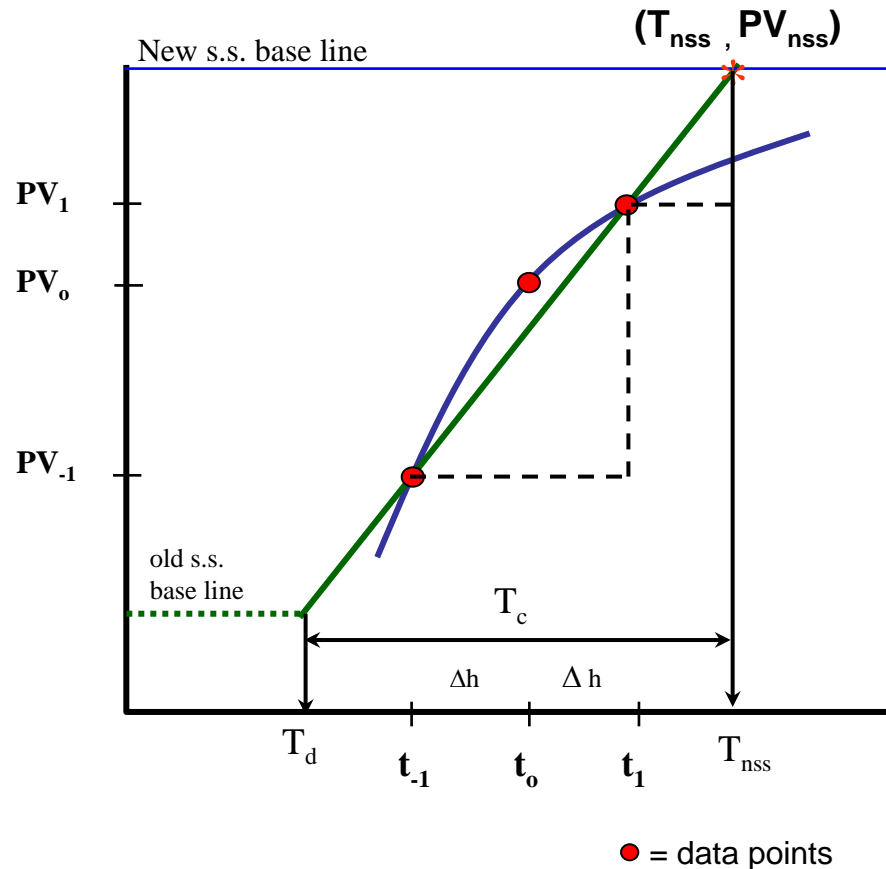


## Numerical Analysis on openloop process response data



### Numerical formulation for time constant, $T_c$ :

Based on the fact that any point along a straight line has similar slope's value; hence,

*slope at  $(T_{nss}, PV_{nss}) = \text{slope at } (t_1, PV_1)$*

$$\frac{PV_{nss} - PV_1}{T_{nss} - t_1} = \frac{PV_1 - PV_{-1}}{t_1 - t_{-1}}$$

$$T_{nss} = t_1 + (PV_{nss} - PV_1) \left( \frac{t_1 - t_{-1}}{PV_1 - PV_{-1}} \right)$$

$$T_c = T_{nss} - T_d$$

**\*\*UNPUBLISHED MATERIAL\*\*- INTERNAL USE ONLY**

