LAMPIRAN I

PERHITUNGAN *AVAILABILITY*

1. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{147,6}{164}$ X 100% = 90%

2. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{158,5-10,7}{158,5}$ X 100% = 93,25%

3. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{155,2-13,1}{155,2}$ X 100% = 91,56%

4. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{161-8,6}{161}$ X 100% = 94,66%

5. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{151,8-13,1}{154,8}$ X 100% = 91,54%

6. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{158,5-9,2}{164}$ X 100% = 94,20%

7. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{158,5-6,3}{158,5}$ X 100% = 96,03%

8. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{155,8-19,9}{155,8}$ X 100% = 87,23%

9. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{185-6,5}{185}$ X 100% $= \frac{147,6}{164}$ X 100% = 96,49%

10. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{160,8-6,2}{160,8}$ X 100% = 96,14%

11. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{156,5-17,3}{156,5}$ X 100% = 88,95%

12. *Availability* $= \frac{Loading\ Time-(Breakdown+Setup)}{Loading\ Time}$

$= \frac{156-18,2}{156}$ X 100% = 88,33%

= 90%

LAMPIRAN II

PERHITUNGAN *PERFOMANCE RATE*

1. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{310x\ 0{,}46}{147{,}6}\ X\ 100\% = \frac{142{,}6}{147{,}6}\ X\ 100\% = 97\%$

2. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{308x\ 0{,}46}{147{,}8}\ X\ 100\% = 95{,}86\%$

3. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{300x\ 0{,}46}{142{,}1}\ X\ 100\% = 97{,}11\%$

4. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{320x\ 0{,}46}{152{,}4}\ X\ 100\% = 96{,}59\%$

5. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{289x\ 0{,}46}{141{,}7}\ X\ 100\% = 93{,}82\%$

6. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{315x\ 0{,}46}{149{,}3}\ X\ 100\% = 97{,}05\%$

7. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{320x\ 0{,}46}{152{,}2}\ X\ 100\% = 96{,}71\%$

8. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{275\ x\ 0{,}46}{135{,}9}\ X\ 100\% = 93{,}08\%$

9. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{377x\ 0{,}46}{178{,}5}\ X\ 100\% = 97{,}15\%$

10. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{321x\ 0{,}46}{154{,}6}\ X\ 100\% = 95{,}51\%$

11. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{298\ x\ 0{,}46}{139{,}2}\ X\ 100\% = 98{,}48\%$

12. *Performance* $= \frac{Processed\ amount\ x\ ideal\ cycle\ time}{Operating\ Time}\ X\ 100\%$

$= \frac{290\ x\ 0{,}46}{137{,}8}\ X\ 100\% = 96{,}81\%$

LAMPIRAN III

PERHITUNGAN *RATE OF QUALITY PORDUCT*

1. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{310-31}{310}\ X\ 100\% = 89{,}7\%$
2. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{308-25}{308}\ X\ 100\% = 91{,}88\%$
3. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{300-28}{300}\ X\ 100\% = 90{,}67\%$
4. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{320-37}{320}\ X\ 100\% = 88{,}44\%$
5. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{310-0{,}46}{147{,}6}\ X\ 100\% = 91\%$
6. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{310-0{,}46}{147{,}6}\ X\ 100\% = 94\%$
7. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{310-0{,}46}{147{,}6}\ X\ 100\% = 87\%$
8. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{310-0{,}46}{147{,}6}\ X\ 100\% = 84\%$
9. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{310-0{,}46}{147{,}6}\ X\ 100\% = 89\%$
10. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{310-0{,}46}{147{,}6}\ X\ 100\% = 87\%$
11. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{310-0{,}46}{147{,}6}\ X\ 100\% = 87\%$
12. $Quality = \frac{Processed\ amount - Unit\ Cacat}{Processed\ amount}\ X\ 100\% = \frac{310-0{,}46}{147{,}6}\ X\ 100\% = 93\%$

LAMPIRAN IV

SIX BIG LOSSES

1) *Downtime Losses*

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 3,5\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 2,3\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 3,2\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 1,3\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 4,9\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{2,2}{147,6}\ X\ 100\% = 1,5\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{0}{147,6}\ X\ 100\% = 0,0\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 4,9\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 0,0\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 0,0\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 4\ \%$

$EF = \frac{Breakdown\ Time}{Operation\ Time}\ X\ 100\% = \frac{5,2}{147,6}\ X\ 100\% = 4,5\ \%$

$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 6,8\ \%$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 4,6\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 5,5\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 4,1\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 3,9\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 4,4\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 4,0\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 8,5\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 3,5\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 3,9\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 7,5\ \%$$

$$SL = \frac{Total\ Setup}{Loading\ time}\ X\ 100\% = \frac{11,2}{147,6}\ X\ 100\% = 7,7\ \%$$

2) *Speed Losses*

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 12,4\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 7,7\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 11,5\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 6\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 11,8\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 6,8\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 4,9\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 15,5\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 4,1\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 4,6\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 13,3\ \%$$

$$Idling\ Losses = \frac{(Breakdown+Setup+Panned\ Downtime)}{(Loading\ time)}\ X\ 100\%$$

$$= \frac{20,4}{164}\ X\ 100\% = 14,2\ \%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 3{,}05\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 3{,}86\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 2{,}64\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 3{,}23\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 5{,}66\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 2{,}78\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 3{,}15\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 6{,}03\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 2{,}75\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 4{,}32\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 1{,}35\%$$

$$RSL = \frac{Operation\ Time-(Ideal\ cycle\ x\ process\ amount)}{Loading\ Time}\ X\ 100\%$$

$$= \frac{147{,}6-(0{,}46x310)}{164}\ X\ 100\% \quad = 2{,}82\%$$

3) *Defect Losses*

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 9\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 7{,}3\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 8{,}3\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 10{,}6\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 7{,}4\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 5{,}8\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 11{,}9\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 13{,}0\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 10{,}4\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 11{,}4\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 11{,}2\%$$

$$PD = \frac{ICT\ x\ Rework}{Loading\ Time}\ X\ 100\% = \frac{0{,}46\ x\ 32}{164}\ X\ 100\% = 5{,}9\%$$