CHAPTER 7
CONCLUSION AND RECOMMENDATION

7.1. Conclusion

1. The plant reliability of dry processing factory of Cooperativa Café Timor (CCT) is 0.99915.
2. Proper maintenance strategy that can be applied for peeler polisher and elevator 1 is the preventive maintenance. The optimum interval preventive maintenance for peeler polisher is 163 days with cost equal to US$ 21.71. Otherwise, for elevator 1 is 80 days with cost equal to US$ 2.80. The order quantity for the spare part of peeler polisher and elevator 1 are 7 and 9 Units respectively and the reorder point are the same, which is 1 unit. The ordering cycle of peeler polisher and elevator 1 are 84 weeks and 72 weeks respectively.

7.2. Recommendation

1. Do the preventive maintenance at the optimum interval, which are 163 days for peeler polisher and 80 days for elevator 1.
2. Do the preventive maintenance for peeler polisher in overtime after the operation of peeler polisher reach 163 days. The maintenance starts from 6 PM until 4 AM the next day.
3. Do the preventive maintenance for elevator 1 at break hours of the workers after the operation of elevator 1 reach 80 days. The maintenance starts from 12 until 12.30 PM.

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APPENDIX

Item #	Time-to-Failure
1	1832
2	2488

Assumed Distribution: WEIBULL

Parameters & Analysis Used: P=2, A=RRX
Data type & Failures and Suspensions in data: 1: F=2 / S=0

The Parameters for the distribution are:
Beta[1]=4.1330
Eta[1]=2367.4081
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Item #	Time-to-Failure
1	432
2	1247.5
3	1311.5
4	1463.5

Assumed Distribution: WEIBULL

Parameters & Analysis Used: P=2, A=RRY
Data type & Failures and Suspensions in data: I: F=4 / S=0

The Parameters for the distribution are:
Beta[1]=1.5922
Eta[1]=1361.4003
Generated on: 1/12/2006 8:19:10 PM

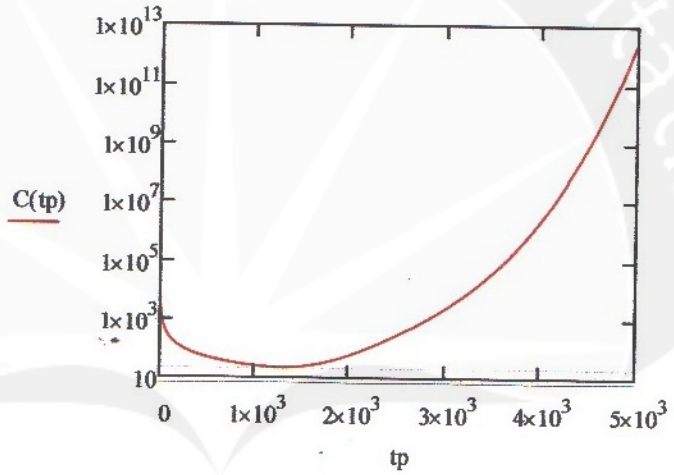
Calculation of Optimum Interval Preventive Maintenance for Peeler Polisher

$$C(tp) := \frac{37872.8 \cdot \left[1 - \left[2.718281828^{-1\left(\frac{tp}{2367.4081}\right)^{4.1330}}\right]\right]}{\int_{tp}^{\infty} 2.718281828^{-1\left(\frac{t}{2367.4081}\right)^{4.1330}} dt} + \frac{23670.5}{tp}$$

$tp := 1, 2 .. 5000$

C(tp) =

	0
1292	21.71
1293	21.71
1294	21.71
1295	21.71
1296	21.71
1297	21.711
1298	21.711
1299	21.711
1300	21.712
1301	21.712
1302	21.713
1303	21.713
1304	21.714
1305	21.715
1306	21.716
1307	21.717
1308	...



Calculation of Optimum Interval Preventive Maintenance for Elevator 1

$$C(tp) := \frac{2365.23 \cdot \left[1 - \left[2.718281828^{-1\left(\frac{tp}{1361.4003}\right)^{1.5922}}\right]\right]}{\int_{tp}^{\infty} 2.718281828^{-1\left(\frac{t}{1361.4003}\right)^{1.5922}} dt} + \frac{1182.615}{tp}$$

$tp := 1, 2 .. 5000$

$C(tp) =$

	0
627	2.793
628	2.793
629	2.793
630	2.793
631	2.793
632	2.793
633	2.793
634	2.793
635	2.794
636	2.794
637	2.794
638	2.794
639	2.794
640	2.794
641	2.795
642	...