

6.0 ANALYSIS AND RECOMMENDATIONS

In this section, the results are examined further by analyzing the financial implications of reducing the collection period for Tenaga Nasional Wilayah Persekutuan. The various processes would then be looked at in turn, and where possible suitable justifications and recommendations will be made.

6.1 Managing The Collection Period

The calculations in Figure 12, shows that for a one day reduction in the collection process, Tenaga Nasional Wilayah Persekutuan would gain an increase in earnings of RM 261,790. This is obtained through investing the extra daily amount collected of RM 3.81 million at an annual interest rate of 6.87%.

Figure 12 Calculation for Increased in Earnings - Tenaga Nasional Wilayah Persekutuan

FINANCIAL YEAR 1994/95			
Sales Per Annum	RM	1,143,185,593.00	
Sales Per Day	RM	3,810,618.64	
Expected rate of return at 6.87% PA (6.87% PA - Interbank FD rate)			6.87 %
INCREASE IN EARNINGS PER YEAR	RM	261,789.50	

6.2 Billing Period

The billing period for non-domestic consumers is 11 days. The 11 day delay can be realistically reduced by decreasing the reading and processing time. One way to do this is to use a remote billing system. A remote billing system is a system whereby the electro-mechanical meters are replaced by another type of meter which is microprocessor based. With this type of meter, the meter reading and other relevant data can be remotely read through the use of the telephone line. This way, the consumer meters can be read within one day. However, if such a system is implemented, it must certainly be complemented through the sending of these bills by registered mail and/or courier service instead of the normal mail as currently practiced (See Table 19).

The other method is to use hand-held readers as currently practised on domestic consumer meter reading. The main advantage of such a method is that the consumer bills are presented immediately and hence minimizing any billing period delays. However, the disadvantage is that the readings of the meters would be not at one go!

Table 19

Billing Period : Non-Domestic Consumers

ACTIVITIES	No. OF DAYS	No. OF DAYS	PROPOSED ACTIVITIES
Manual Reading of Meters Processing of bill - power factor, Mwhr, MVarhr Normal Mail	1	1	METHOD 1
	7	0	<ul style="list-style-type: none"> Electronic Metering - Remote Reading Advantage - all consumer meters can be read within one business day.
	3	1	<ul style="list-style-type: none"> Immediately done Registered, express or courier service
TOTAL NO. OF DAYS	11	2	TOTAL NO. OF DAYS
Manual Reading of Meters Processing of bill - power factor, Mwhr, MVarhr Normal Mail	1	1	METHOD 2
	7	0	<ul style="list-style-type: none"> Hand Held Readers Advantage - No delay in mail Disadvantage - Reading and issuance of bill is staggered
	3	0	<ul style="list-style-type: none"> Immediately done No Mail Delay
TOTAL NO. OF DAYS	11	1	TOTAL NO. OF DAYS

If the daily collection of RM 2.88 million for non-domestic consumers in Wilayah Persekutuan was invested at the rate of 6.86% per annum, the savings would then be RM 548.98 per day. Therefore if either method 1 or 2 is considered, the reduction in the delay by 9 and 10 days respectively, would translate into an immediate savings of **RM 548.98 x 9 days = RM 4,941** or **RM 548.98 x 10 = RM 5,499** respectively.

6.3 Customer Payment Period

The time a consumer takes to pay his/her electricity bill depends on the following:

- ① The credit terms given
- ② Penalty for late payment
- ③ Incentives for early payment

Although the **Licensee Supply Regulations** allows Tenaga Nasional to collect the amount due after fifteen days on presentation of the electricity bill. Tenaga Nasional's credit terms given to non domestic consumers are quite liberal.

Another contributory factor is the costs of 'reconnection fee'. The RM 3 fee currently in use is pittance when compared to actual disconnection and restoration costs. Tenaga Nasional also lacks in its policy to disconnect errant late payers. In Wilayah Persekutuan, the rate of disconnection prior to the introduction of the *CIBS* system was about 8,000 consumers per month. After the introduction of the *CIBS*, the rate of disconnection was reduced to about 800 consumers per month. This is due to the slowness in updating of consumer accounts.

Hence, any proposal to introduce late payment charges seemed distant at this point in time.

In addition to the '**push strategy**', a '**pull strategy**' must also be considered. A typical pull strategy would be in the form of discounts for early payment. Another pull strategy could also be in the form of supporting the consumers by providing them with their own load profile and equipment consumption. This is possible with electronic remote metering. With the provision of these information, Tenaga Nasional would help the consumer to efficiently manage their electricity consumption whilst at the same time, Tenaga Nasional can issue periodic electricity bills promptly. Hence, the final electricity bill would be 'just a step away'.

6.3.1 Average Collection Period

The Average Collection Period (*ACP*), a measure of debtors balance was used by Tenaga Nasional to reflect the 'promptness' of its consumers in settling their electricity bills. The use of *ACP* for such a purpose is inappropriate. The *ACP* does not indicate the actual time the electricity bill is settled nor does it show the consistency of payment by the consumers.

6.4 Processing Period

6.4.1 Tenaga Nasional Collection Centre

The number of days taken by the collection centre to process the payments is reasonable and therefore acceptable.

6.4.2 Payment by Mail

For payment by mail, the results show an average delay of 9 days. Based on sales per day of RM 0.14 million and RM 0.43 million, the outstanding sales are RM 1.26 million and RM 3.87 million for domestic and non-domestic consumers respectively.

This delay of 9 days can be realistically reduced by streamlining the operations of the collection centre at the Head Office, through the installation of an additional CRM unit and/or personnel.

6.4.3 Payment through Post Malaysia

For payment through Pos Malaysia, the results show an average delay of 7 days.

Figure 13, shows the analysis of collection disbursement by Pos Malaysia to Tenaga Nasional for Wilayah Persekutuan.

Figure 13 Analysis of Collection Disbursement by Pos Malaysia for Tenaga Nasional Wilayah Persekutuan

Average Monthly Collection	RM	690,000.00	
<i>less</i>			
Bounced Cheques	RM	207.00	0.03%
Commission	RM	69.00	0.01%
Total available	RM	689,724.00	
Average Weekly Funds Available	RM	172,431.00	
Weekly Transfer To Tenaga Nasional	RM	128,672.70	1%
EXCESS FUNDS AVAILABLE (Weekly)	RM	43,758.30	
<i>Consider</i>			
Total funds collected for 14 days	RM	344,862.00	
Total funds collected for 15th day	RM	26,527.85	
Total funds collected by the 15th	RM	371,389.85	
Total funds transferred to TNB	RM	475,099.22	
Excess/(Deficit)	RM	(103,709.37)	
<i>Consider further</i>			
Total funds collected for One month	RM	689,724.00	
(less bounced cheque & commission)			
Total funds transferred to TNB	RM	732,444.63	
Excess/(Deficit)	RM	(42,720.63)	

From the Figure 13, it would seem that Pos Malaysia would have a weekly excess cash of RM 43,758/- available at its disposal. But by the 15th of every month and on transferring of additional RM 217,754/-, Pos Malaysia would have a deficit of RM 103,709. At the end of the month, Pos Malaysia would have a deficit of RM 42,721. Although the arrangement does not seem to

favor Pos Malaysia, the fact that it has access to and can make use of RM 26,528/- daily for every 6 business days augurs well for it.

Hence, the weekly transfers tend to be a good compromise for both parties. But in order to improve the cash flow for Tenaga Nasional, the weekly payment amount should be increased. Eliminating this arrangement and opting for a daily transfer might entail a higher cost than the RM 0.40 collected per bill. A more detailed analysis needs to be performed in this area of interest, but it is outside of the scope of this research.

Another issue to consider is the dishonored cheques or 'bounced cheques' as it is commonly called. On average, these cheques totaled RM 20,000 or 0.03% of the monthly collection at Pos Malaysia. Under current practice, Tenaga Nasional would know about such bounced cheques only at the end of the second month, some 60 days later when Pos Malaysia submits the final payment and report. Although the amount is small and seemed insignificant, a new procedure has to be agreed with Pos Malaysia to address the problem. Actual data is not available and further research is necessary before a conclusive report is produced.

Nevertheless at this point in time, it is proposed that all bounced cheques are to be immediately sent back to Tenaga Nasional upon encounter. This is to reduce the sales outstanding associated with it.

6.4.4 Payment through Other One-Stop-Agencies

The number of days taken by the One-Stop-Agencies to process the payments is reasonable and therefore acceptable

6.4.5 Payment through Banks and Credit Card

The results show that payments through banks and credit cards incur an average delay of 14 days.

Table 20 shows the processing period for payment through banks and credit card facility. The delay at Tenaga Nasional's side, can be realistically reduced from **seven** to **two** days. However, since the systems or procedures proposed i.e. domestic electronic meters and Electronic File Transfer (EFT) are not yet available, the implementation process would tend to take a longer time. Further studies have to be conducted to ascertain the actual costs and benefits. For a daily collection of **RM 113,794.66**

received, a reduction in delay by 5 days would result in an increase in earnings of **RM 108.58**.

Table 20 Processing Period : Payment Through Banks and Credit Card

ACTIVITIES	No. OF DAYS	No. OF DAYS	PROPOSED ACTIVITIES
Manual Reading of Meters	3	1	<ul style="list-style-type: none"> ⚡ Electronic Metering - Remote Reading ⚡ Advantage - all consumer meters can be read within one business day.
Retrieving of relevant meter reading	2	0	<ul style="list-style-type: none"> ⚡ Transmitted at the end of same day
Compilation of all data	1	1	<ul style="list-style-type: none"> ⚡ Next business day (2nd day)
Send 'Billing Tape' to respective institutions	1	0	<ul style="list-style-type: none"> ⚡ Using EFT to transmit information on 2nd day
TOTAL NO. OF DAYS IN STAGE 1	7	2	TOTAL NO. OF DAYS IN STAGE 1
Receipt of tape (inclusive of mailing time)	1	1	<ul style="list-style-type: none"> ⚡ Receive Information within 2nd day
Downloading of tape and running of billing program and debiting of account	5	1	<ul style="list-style-type: none"> ⚡ From tape institution would know how much is due to Tenaga Nasional and remit payment accordingly
Preparation of 'Payment Tape' and Payment	1	1	<ul style="list-style-type: none"> ⚡ Preparation of information and transmit payment by Telegraphic Transfer and Information by EFT
Send 'Payment Tape' and payment to Tenaga Nasional	1	0	<ul style="list-style-type: none"> ⚡ Not required
TOTAL NO. OF DAYS IN STAGE 2	7	3	TOTAL NO. OF DAYS IN STAGE 2
TOTAL NO. OF DAYS	14	5	TOTAL NO. OF DAYS

The Institutions delay is more difficult to reduce as it involve two parties with differing objectives. Except for BSN and MBF all banks do not charge Tenaga Nasional for providing the collection service to their respective customers. But, these institutions are indirectly 'paid' through the use of availability and disbursement float.

Figure 14 shows the customer and processing float review for payment through banks i.e. in lieu of no delay to service charge of 1.8% of value is charged as per credit card arrangement. Therefore, based on the interest rate of 6.87% per year and for a total delay of seven days, Tenaga Nasional would forego RM 78/- worth of investments plus an additional payment of RM192.10 for service, if the option is taken. Hence, the current arrangement is still acceptable.

Figure 14 Processing Period : Payment Through Banks and Credit Card for Tenaga Nasional

<i>Consider Maybank</i>		
Total Collection for FY94/95	RM	3,201,703.30
Average Collection per day	RM	10,672.34
<u>Investment Interest Forgone</u>		
Interest Rate - 6.87% PA	%	0.02
Total No. of Days	Days	1 (say)
Total Interest forgone / gain by Maybank	RM	2.04 per day
<u>No Delay but Service Charge</u>		
Service Charge - 1.8% of Value	%	1.80
Total Cost to Tenaga Nasional	RM	192.10 per day

6.5 Transit Period

The number of days taken by the Maybank to process the payments is reasonable and therefore acceptable.

Consider the need of having an *OCP*-like arrangement for local cheques (Figure 15). For the current daily collection of RM 10,672.34, the reduction in delay by 2 days, would translate into an immediate savings of RM 2.04 per day . Therefore, taking into account the cost of the cheque purchase at 0.06% of the face value of the cheques, the total cost would then be **RM 6.40**. Hence although a scheme similar to *OCP* is possible there would be a net loss of about RM 4.37. It should be noted that Mobil Malaysia has immediate access to all funds due from all cheques remitted at no extra cost!

Figure 15 Calculation to show (1) Loss/Gain if OCP arrangement is used for local cheques, and (2) Loss/Gain for Service Charge in lieu of No Float

TRANSIT FLOAT - MAYBANK			
Annual Collection	RM	3,201,703.30	
Average Daily Collection (All Cheques Assumed Local)	RM	10,672.34	300 Days
Interest Rate Per Day	%	0.02	360 Days
Savings Per Day	RM	2.04	Reduced
Savings in Float	RM	4.07	2 Float (Days)
If similar arrangement to OCP - 0.06% of Value	RM	6.40	0.06%
Net Gain / Loss	RM	(4.37)	
If No Float But Service Charge - 1.8% of Value	RM	192.10	1.80%
Net Gain / Loss	RM	(190.07)	

6.6 A further Analysis

From the findings, it is concluded that reduction of float is highly possible in most areas. Although in most cases, an initial investment is required to put the various processes and systems in place, there are a number of processes that can be implemented immediately with minimum cost. Payment by mail for instance - adding an extra **CRM** and additional personnel would instantaneously reduces the delay by eight days. In other cases like with the bank -- an agreement to reduce 'bank processing time', 'operational issues - minimum balance' and for the bank to undertake some of the administrative duties akin to the 'lock box system' in-lieu minimum float and banking-in in non interest bearing account are urgently recommended.