

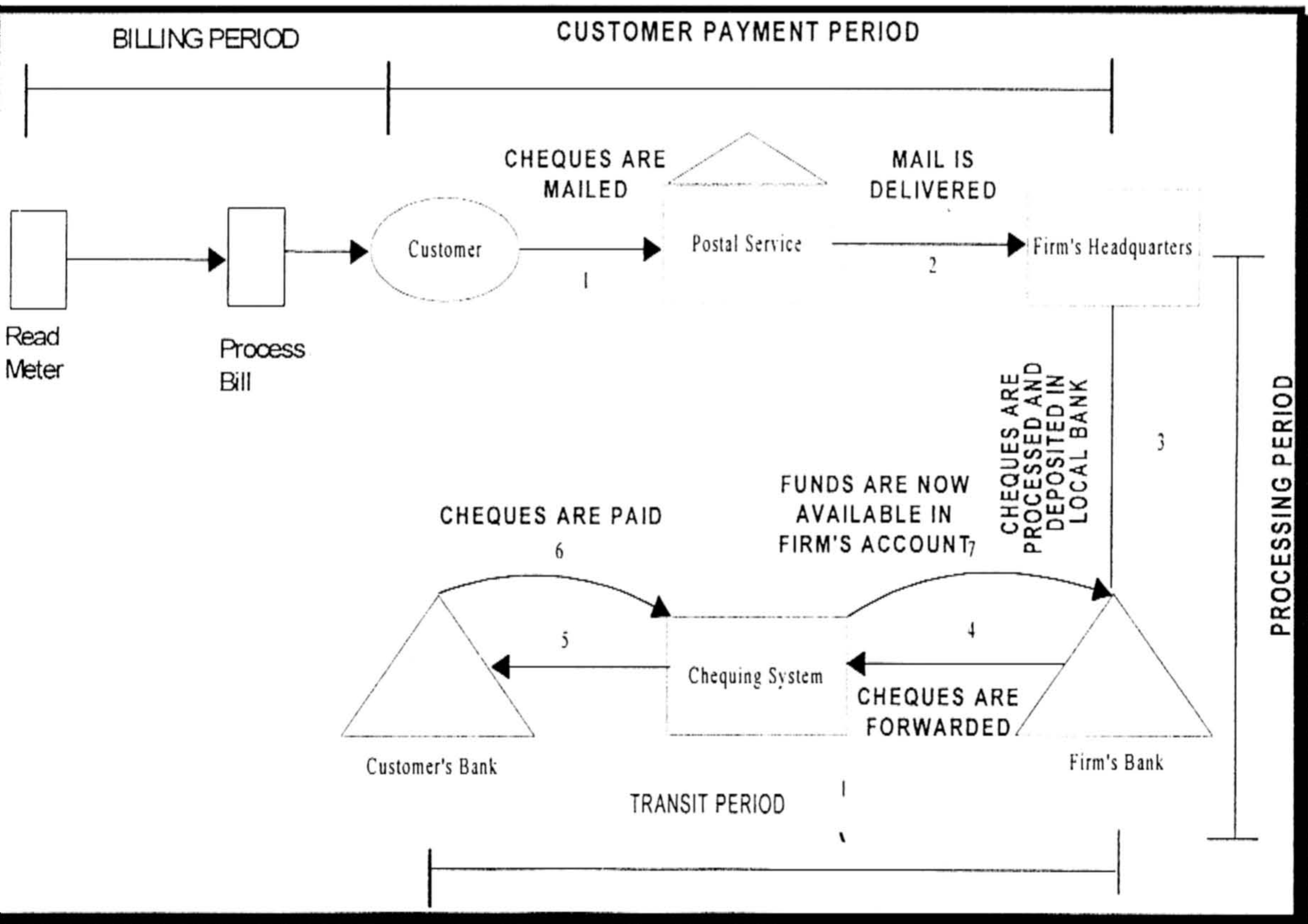
## 5.0 RESULTS OF STUDY

### 5.1 The Collection Process

Figure 6 shows the billing and collection process for a typical consumer. Basically it involves four types of sub-processes, namely :-

- ☑ Billing Period
- ☑ Customer Payment Period
- ☑ Processing Period, and
- ☑ Transit Period

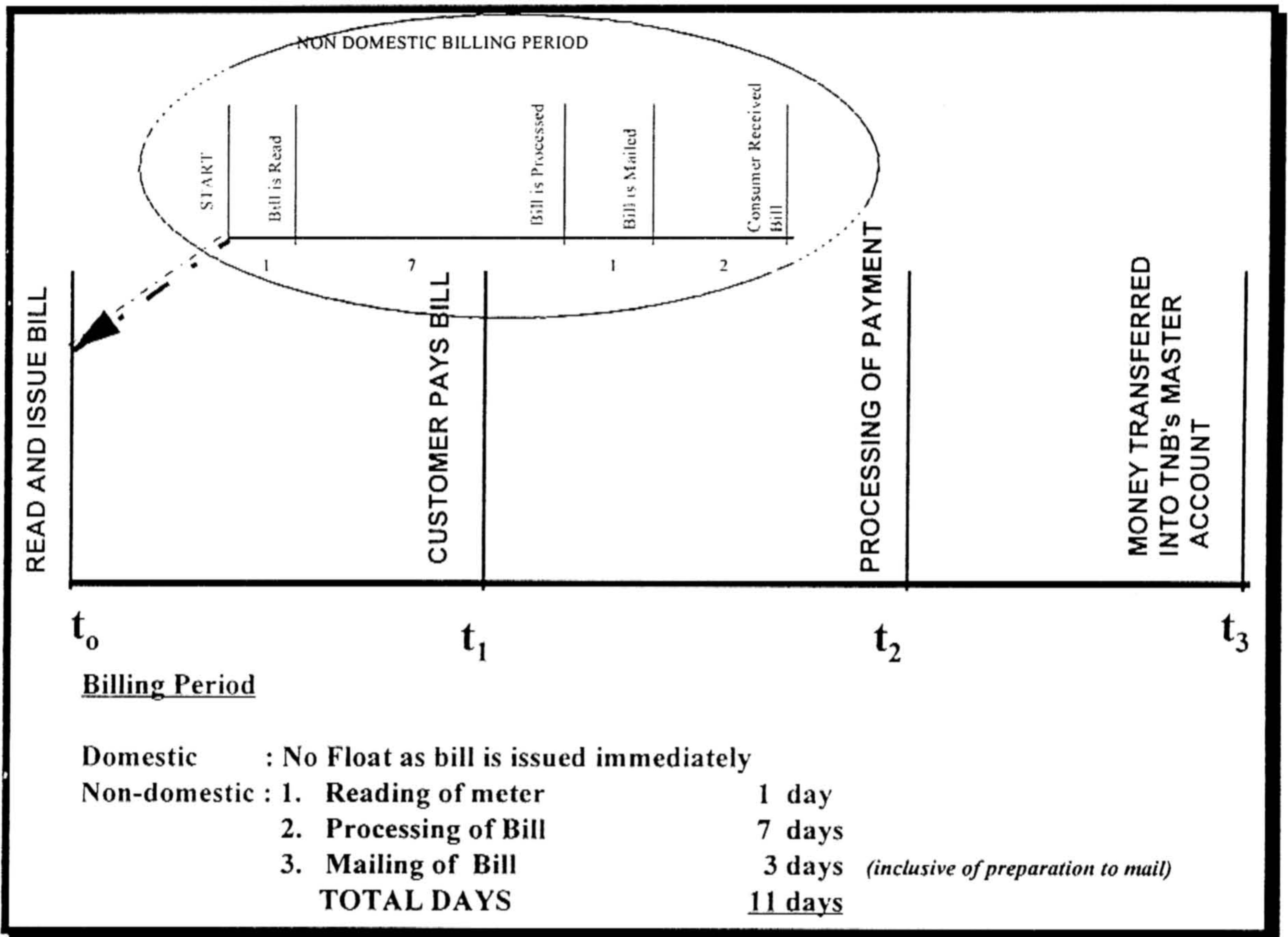
Figure 6 Typical Collection Process for Tenaga Nasional



## 5.2 Billing Period

In Wilayah Persekutuan. Tenaga Nasional bills its consumers in two different ways as shown in figure 7.

Figure 7 Billing Period for Domestic & Non Domestic Consumers



For domestic consumers and under the CIBS system, Meter Readers are equipped with hand held readers. These hand held readers contain information about the consumer - account number, last reading, outstanding bill, etc.; downloaded from a mainframe back at the office. The Meter Readers make their rounds with these

readers and on reaching the premise, they would punch in the latest reading. Based on the stored information, the current bill is immediately processed, printed and presented to the consumer. Thus, no obvious delay is detected with regard to domestic consumers.

The billing system for both domestic and non-domestic consumers is computerized. However, as the reading of non-domestic electric meters is still manually done, the processing and issuance of the electricity bill for non-domestic consumers is very much delayed. This is significant as the processing and issuance of the electricity bill to this group of consumers take up to 11 days on average.

The breakdown of consumers into domestic and non-domestic categories and their respective sales in Wilayah Persekutuan is as per Table 8.

Table 8 Breakdown of Sales for Wilayah Persekutuan for Financial Year 1994/95

ITEM	DOMESTIC	NON-DOMESTIC
Total Sales for FY94/95	RM 280.17 million	RM 863.02 million
Average Sales Per Day (300 days)	RM 0.93 million	RM 2.88 million

From the table above, the time delay for the Billing Period for non-domestic consumers was obtained as per Table 9.

Table 9 Billing Period : Total Time Delay for Non-Domestic Consumers

<b>NON DOMESTIC CONSUMER</b>	
<b>ACTIVITIES</b>	<b>No OF DAYS</b>
1. Manual Reading of Meters	1
2. Processing of bill - power factor, Mwhr, MVarhr	7
3. Normal Mail	3
<b>TOTAL NUMBER OF DAYS</b>	<b>11</b>

### 5.3 Customer Payment Period

The data for the customer payment Period was not obtainable. However as the **Average Collection Period (ACP)** was used by Tenaga Nasional Wilayah Persekutuan to show the average time taken for customers to pay, these data was used to determine the average delay for both domestic and non-domestic consumers.

Table 10 Customer Payment Period based on ACP

<b>CONSUMERS</b>	<b>PERIOD (Days)</b>
<b>DOMESTIC</b>	<b>32</b>
<b>NON-DOMESTIC</b>	<b>40</b>

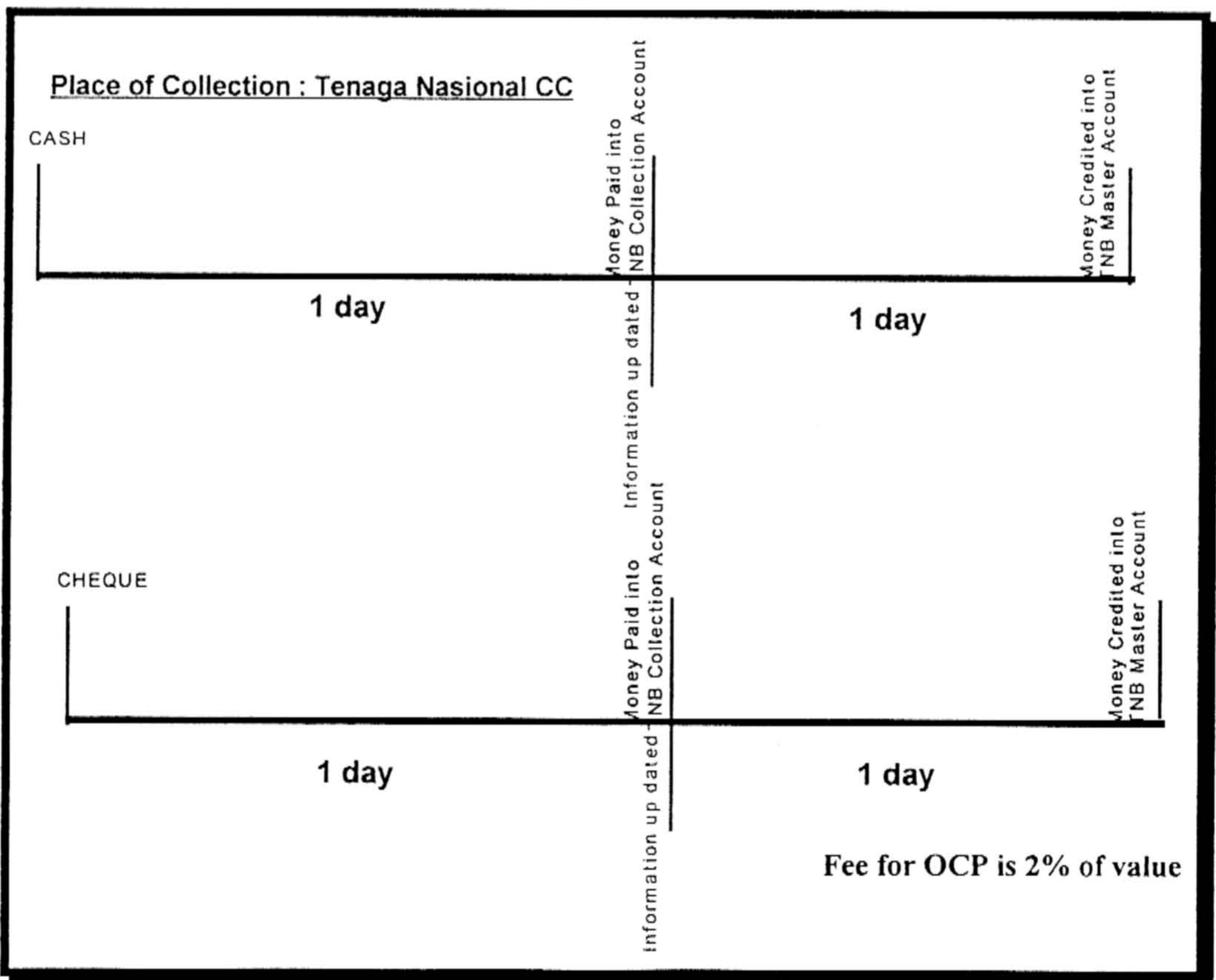
## 5.4 Processing Period

The processing period varies according to the mode and means of payment. Due to the vast combinations of mode and means, only the main ones are discussed below.

### 5.4.1 Payment At Tenaga Nasional's Collection Centres

The processing period at Tenaga Nasional's Collection Centre is shown in Figure 8. All Tenaga Nasional's Collection Centres are located near a Maybank

Figure 8 Processing Period: Tenaga Nasional' Collection Centre



Branch. Cash and cheque received are deposited at the branch several times a day with the last deposit made at 1500 hrs. All collection centres are equipped with a computerized Cash Register Machine (**CRM**) which automatically sorts out the day's collection according to different payments and agency codes (See Appendix 5). For December 1995, the collection centres in Wilayah Persekutuan collected RM 135.17 million or RM 5.2 million per day. Therefore the collection processes for both domestic and non-domestic consumers are determined as per Table 11.

Table 11 Collection Process : Payment at Tenaga Nasional Collection Centre

DOMESTIC CONSUMER	
PROCESSES	No OF DAYS
1. Billing Period	0
2. Customer Payment Period	32
3. Payment at Tenaga Nasional Collection Centre	1
4. Transit Period **	2
<b>TOTAL NUMBER OF DAYS</b>	<b>35</b>
NON DOMESTIC CONSUMER	
PROCESSES	No OF DAYS
1. Billing Period	11
2. Customer Payment Period	40
3. Payment at Tenaga Nasional Collection Centre	1
4. Transit Period **	2
<b>TOTAL NUMBER OF DAYS</b>	<b>54</b>

\*\* The Transit Period is taken as two days (See Section 5.5).

## 5.4.2 Payment By Mail

All payment received through the mail are *immediately* sent to the collection centre, located at the Head Office Complex (See Figure 9).

Figure 9 Processing Period : Payment by Mail

Place of Collection : Mail									
cheque received from consumer by mail									
Bank in Cheque	Money Paid into TNB Collection Account								
9 days	1 day								
Information up dated									
<table border="1"> <thead> <tr> <th colspan="2">No. of Days</th> </tr> </thead> <tbody> <tr> <td>1. Processing Time at Head Office (Between 3 to 14 days)</td> <td style="text-align: center;">9 Days (<i>average</i>)</td> </tr> <tr> <td>2. Transit Period</td> <td style="text-align: center;">2 Days (<i>Standard</i>)</td> </tr> <tr> <td><b>TOTAL No. OF DAYS</b></td> <td style="text-align: center;"><b><u>11 Days</u></b></td> </tr> </tbody> </table>		No. of Days		1. Processing Time at Head Office (Between 3 to 14 days)	9 Days ( <i>average</i> )	2. Transit Period	2 Days ( <i>Standard</i> )	<b>TOTAL No. OF DAYS</b>	<b><u>11 Days</u></b>
No. of Days									
1. Processing Time at Head Office (Between 3 to 14 days)	9 Days ( <i>average</i> )								
2. Transit Period	2 Days ( <i>Standard</i> )								
<b>TOTAL No. OF DAYS</b>	<b><u>11 Days</u></b>								
	1 day								
	Money Credited into TNB Master Account								

As can be seen from the figure above, the processing of payment takes nine days on average while the bank takes an additional two days to clear the cheque deposited with it.

Table 12 shows the collection process for payment by mail.

Table 12 Collection Process for Payment by Mail

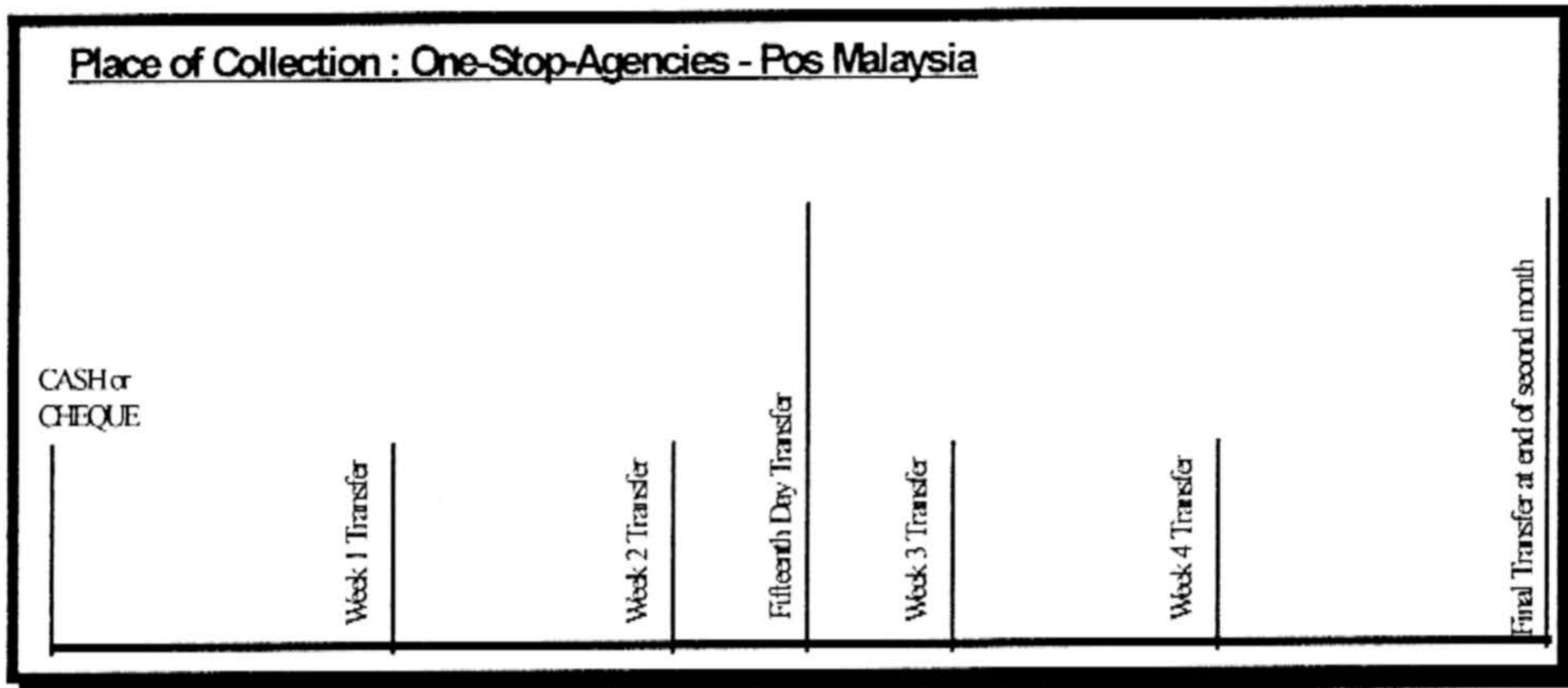
<b>DOMESTIC CONSUMER</b>	
<b>PROCESSES</b>	<b>No OF DAYS</b>
1. Billing Period	0
2. Customer Payment Period	32
3. Payment by mail	9
4. Transit Period	2
<b>TOTAL NUMBER OF DAYS</b>	<b>43</b>
<b>NON DOMESTIC CONSUMER</b>	
<b>PROCESSES</b>	<b>No OF DAYS</b>
1. Billing Period	11
2. Customer Payment Period	40
3. Payment by mail	9
4. Transit Period	2
<b>TOTAL NUMBER OF DAYS</b>	<b>62</b>

#### 5.4.3 Payment At One-Stop Agencies : Pos Malaysia

The collection by Pos Malaysia amounts to RM 70 million and RM 18 million per month for the whole country and Wilayah Persekutuan respectively. However, the payment is only disbursed to Tenaga Nasional in the manner depicted in Figures 4 (Page 27) and 10. From Figure 10, it is determined that the time taken to transfer part of the payment to Tenaga Nasional was seven days.



Figure 10 Process Period : Pos Malaysia



Therefore the collection process for payment by mail for both categories of consumer is as per Table 13.

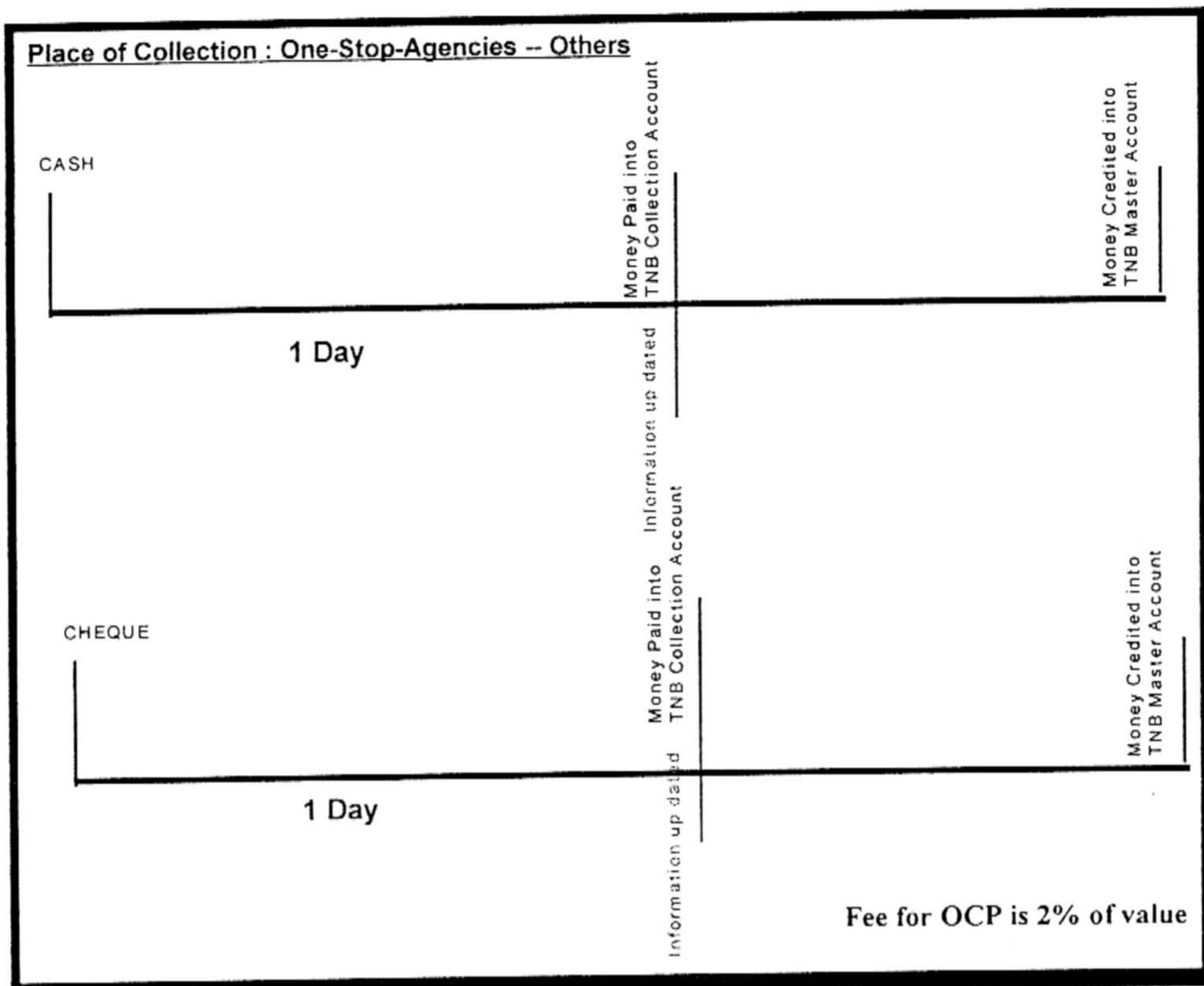
Table 13 Collection Process for Payment at Pos Malaysia

DOMESTIC CONSUMER	
PROCESSES	No OF DAYS
1. Billing Period	0
2. Customer Payment Period	32
3. Payment through Pos Malaysia	7
4. Transit Period	N/A
<b>TOTAL NUMBER OF DAYS</b>	<b>39</b>

#### 5.5.4. Payment At One-Stop-Agencies : Other Agencies

Transfer of funds from the other agencies' accounts to Tenaga Nasional would normally take one business day (Figure 11). This is in addition to the one business day by the other agencies and their banks to process the payment due to the cheques presented.

Figure 11 Processing period : Other One-Stop Agencies



Based on Figure 11, the collection process for payment through other One-Stop Agencies is as per Table 14.

Table 14 Collection Process for Payment through other One-Stop-Agencies : Domestic Consumer

PROCESSES	No OF DAYS
1. Billing Period	0
2. Customer Payment Period	32
3. Payment through Other One-Atop-Agencies	2
4. Transit Period	N/A
<b>TOTAL NUMBER OF DAYS</b>	<b>34</b>

#### 5.4.5. Payment Through Banks and By Credit Card

Transfer of funds from the banks and MBF Credit Card Centre to Tenaga Nasional would take **fourteen** business days. This is due to the seven days taken by Tenaga Nasional to prepare the 'billing tape' and another seven days for these institutions to execute payment, prepare a 'payment tape' and remit the collected amount to Tenaga Nasional (See Table 15).

Table 15 Banks and Credit Card : No. of Delay Days

ACTIVITIES	No. of Days
Manual Reading of Meters	3
Retrieving of relevant meter reading	2
Compilation of all data	1
Send 'Billing Tape' to respective institutions	1
<b>TOTAL NUMBER OF DELAY DAYS (STAGE 1)</b>	<b>7</b>
Receipt of tape (inclusive of mailing time)	1
Downloading of tape and running of billing program and debiting of account	5
Preparation of 'Payment Tape' and Payment	1
Send 'Payment Tape' and payment to Tenaga Nasional	1
<b>TOTAL NUMBER OF DELAY DAYS (STAGE 2)</b>	<b>7</b>
<b>TOTAL NO. OF DAYS</b>	<b>14</b>

Table 16 shows the total number of delay days for the collection process for a domestic consumer, who pays through the banks and/or credit card.

Table 16 Collection Process for Payment through Banks and Credit Card

DOMESTIC CONSUMER	
PROCESSES	No OF DAYS
1. Billing Period	0
2. Customer Payment Period	32
3. Payment through Banks and Credit Card	14
4. Transit Period	N/A
<b>TOTAL NUMBER OF DAYS</b>	<b>46</b>

## **5.5 Transit Float**

Transit Period refers to the banking process and looks into the length of time taken from the time money is deposited into the bank account and until it is made available for use by Tenaga Nasional.

Unlike other regions, all collection centers in Wilayah Persekutuan are required to open their collection accounts at Maybank only. This is because the Corporate Account is located at Maybank and such arrangement is for ease and convenience of funds transfer. In Wilayah Persekutuan, there is only a single account for collection -- the **Collection Account**, whilst other regions are required to have two accounts, namely a **Clearing Account** and a **Collection Account**. The rationale behind the two accounts is that it is a statutory requirement of the Ministry concern, although this tends to increase **transit float** even further.

With Maybank, Tenaga Nasional has an Outport Cheque Purchase (OCP) arrangement, whereby Maybank purchases all outport cheques for a nominal fee. The number of days taken for payment to be processed is as shown in Table 17.

Table 17 Transit Period

ACTIVITIES	NO. OF DAYS
<b>Cash</b>	
Cash Banked in	1 **
Swept into Master Account at 2400hrs (same day)	0
<b>TOTAL NO. OF DAYS FOR CASH</b>	<b>1</b>
<b>Local Cheques</b>	
Cheques Banked In	1
Clearance	1
Swept into Master Account at 2400hrs (same day)	0
<b>TOTAL NO. OF DAYS FOR LOCAL CHEQUE</b>	<b>2</b>
<b>Outport Cheques</b>	
Cheques Banked In	1
Clearance (same day)	0
Swept into Master Account at 2400hrs (same day)	0
<b>TOTAL NO. OF DAYS FOR OUTPORT CHEQUE</b>	<b>1</b>

\*\*Under normal circumstances, the cash deposited would be available immediately. However under the present arrangement, the cash can only be made available at 12.00 midnight, once the sweeping process is activated

If all cheques received are assumed local (See Appendix 7),

then the delay for payment by cheques is taken as two days.

## 5.6 Summary of Float

The float for the collection process is summarized as per Table 18

Table 18 Summary of Float

	NO. OF DAYS					
	TNB CC		BY MAIL CHEQUE	POS	ONE- STOP	BANKS/ CREDIT CARDS
	CASH	CHEQUE		MALAYSIA	AGENCY*	
			CASH or CHEQUE	CASH or CHEQUE		
<b>DOMESTIC CONSUMERS</b>						
BILLING PERIOD	0	0	0	0	0	0
CONSUMER PAYMENT PERIOD	32	32	32	32	32	32
PROCESSING PERIOD	2	2	9	7	2	14
TRANSIT PERIOD	1	2	2	0	0	0
TOTAL NO. OF DAYS	35	36	43	39	34	46
AV. DAILY SALES (IN RM MIL.)	0.093	0.837	0.14	0.69	0.4	0.11
TOT. SALES REC. (IN RM MIL.)	3.255	30.132	6.02	26.91	13.6	5.06
SAVINGS/YEAR @ 6.87% P.A.	0.0063891	0.0575019	0.009618	0.047403	0.02748	0.007557
<b>NON-DOMESTIC CONSUMERS</b>						
BILLING PERIOD		11	11			
CONSUMER PAYMENT PERIOD		40	40			
PROCESSING PERIOD		2	9			
TRANSIT PERIOD		2	2			
TOTAL NO. OF DAYS		55	62			
AV. DAILY SALES (IN RM MIL.)		2.88	0.43			
TOT. SALES REC. (IN RM MIL.)		158.4	26.66			
SAVINGS/YEAR @ 6.87% P.A.	0	0.197856	0.029541			

\* FEE FOR OCP IS 2% OF THE BILL AMOUNT.

The study found that the highest total sales receivable was for a non-domestic consumer paying by local cheque through Tenaga Nasional Collection Centre. The amount was of RM 155.52 million and was based on a 54 days collection processes. Similarly, the lowest total sales receivable was RM 5.06 million, that is, for a domestic consumer paying through banks and credit card for a total of 46 days.

The longest time period was 62 days i.e. for a non domestic consumer paying by local cheque through the mail whilst the shortest time taken was 34 days achieved through payment by a domestic consumer through one of the One-Stop Agencies.