

Interest  
Oracle FLEXCUBE Corporate Lending 12.1.0.0.0  
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**ORACLE®**  
FINANCIAL SERVICES

**ORACLE®**



Interest  
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Oracle Financial Services Software Limited  
Oracle Park  
Off Western Express Highway  
Goregaon (East)  
Mumbai, Maharashtra 400 063  
India

Worldwide Inquiries:  
Phone: +91 22 6718 3000  
Fax: +91 22 6718 3001  
[www.oracle.com/financialservices/](http://www.oracle.com/financialservices/)

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# 1. About this Manual

## 1.1 Introduction

This manual is designed to help you process interest on the contracts you enter in Oracle FLEXCUBE.

Besides this User Manual, you can find answers to specific features and procedures in the Online Help, which can be invoked, by choosing 'Help Contents' from the *Help* Menu of the software. You can further obtain information specific to a particular field by placing the cursor on the relevant field and striking <F1> on the keyboard.

### 1.1.1 Audience

This manual is intended for the officers at your bank who process interest on the contracts entered in Oracle FLEXCUBE.

### 1.1.2 Organization

This manual is organized as follows:

| Chapter   | Description  |
|-----------|--|
| Chapter 1 | <i>About this Manual</i> - : Gives information on the intended audience. It also lists the various chapters covered in this User Manual.   |
| Chapter 2 | <i>Processing Interest</i> : This chapter explains how interest can be set up and processed. It details the procedure for defining interest rules, linking the rules to products, and applying them on a contract.           |
| Chapter 3 | <i>Building Interest Classes</i> : This chapter explains how interest classes are built and how attributes are defined. The building of interest classes is applicable to Securities and Derivatives products and contracts. |

### 1.1.3 Conventions Used in this Manual

Important information is preceded with the  symbol.

### 1.1.4 Related Documents

For further information on procedures discussed in the manual, refer the Oracle FLEXCUBE User Manuals on:

- Common Procedures
- Products

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## 2. Processing Interest

### 2.1 Introduction

Interest is an important component of contracts processed by your bank.

You should define the attributes for interest components by way of defining Interest Rules. These Interest Rules should, in turn, be linked to a product, so that the attributes of the Interest Rule will be applied on all contracts involving the product. However, while capturing the details of a contract, you can modify some of the attributes defined for a rule. Further, for a contract, you can also indicate that the application of a specific Interest component should be waived.

In this chapter, we shall discuss the processing of interest on contracts. This will include defining Interest Rules, linking them to a product, and applying them on a contract.

#### Example

You could link two Interest Rules to a product, one with 20% fixed interest and another with floating interest. These two will be processed as two different interest components. The expense and accrual accounts can be different for these components. The two interest components will be reported as different components in all reports and also in the customer correspondence relating to the contract.

#### **Processing Interest**

You process interest in Oracle FLEXCUBE in the following manner:

- Before a product module becomes operational, you will need to maintain certain basic information on interest, which will later be linked to a product. To create this information, you will have to define floating rate codes and interest rules.
- You create Interest Rules for interest with attributes suitable for the product where these rules will be applied. You will give each interest rule a specific Rule ID.
- When you define a product, you can choose the required interest rules that are applicable for contracts in the product and link these rules to the product. The product will inherit the Rule ID's that are linked in this manner.
- When you input a contract, the interest details defined for the product in which the contract has been entered would be applied automatically on the contract. In other words, the interest rule is 'defaulted' from the product under which the contract is processed. However, if required, you can change some of the attributes for interest, for a specific contract.

#### 2.1.1 The Concept of Main Interest

If a product, and hence a contract involving the product, has more than one type of interest applicable, you should designate one of them as the Main Interest. You can do this while defining the interest details for the product. For capitalization and amortization (repayment in Equated Installments) purposes, the main interest component will be considered.

Commission, if any, can be defined as yet another interest rule (It is a rate and is tenor based like interest and can be processed similarly.) For example, you can define your main interest as a rule with ID INT1 and your commission can be defined as another interest rule with Rule ID INT2. You can have as many interest rules as you wish to apply on the product and the contract.

## **2.1.2 Methods of Interest Application**

Interest can be applied in different ways, as follows:

### **Fixed**

An interest rate is fixed at the time of initiating the contract. The repayment amounts will be computed based on this rate of interest and the repayment schedule.

However, the interest rate applicable on a contract can be changed after the contract has been initiated. You should indicate that this change should come into effect as of a date called the Value Date. The interest amount will be computed based on the new rate effective from the Value Date.

### **Floating**

The market rates (with a spread or without it) are applied on the contract. This application can be done in two ways:

- every time the market rate changes
- only at periodic intervals

The market rates are stored in the Floating Rates table. The rates are defined for a combination of Rate Codes and Currency. If the rates have to be applied periodically, the frequency of application should be defined for each contract.

## **2.1.3 Methods of Interest Collection**

### **Bearing**

The Interest is liquidated on schedule payment date(s).

#### **Example**

You have Ms Yvonne Cousteau's deposit of USD 10,000 under the scheme 'Short Term Deposits for Individuals', at 10% interest per annum, for a year.

Under the bearing type of interest payment method, the deposit of USD 10,000 is collected from Ms Cousteau and the interest on it is paid out over the one year, which is the tenor of the deposit.

### **Discounted**

In this interest payment method, the interest is deducted at the time of initiating the contract.

#### **Example**

Take the case of Ms Yvonne Cousteau's deposit of USD 10,000 under the scheme 'Short Term Deposits from Individuals', at 10% interest per annum, for a year.

Under the discounted type of interest payment, the total interest calculated for the tenor of the deposit, USD 1,000, is deducted from the nominal (USD 10,000) and only USD 9,000 is accepted. This forms the principal of the deposit. At maturity, Ms Yvonne Cousteau gets back USD 10,000.

### **True Discounted**

In this interest payment method, the interest is calculated on the principal in a manner that is slightly different from the 'Discounted' method. The interest rate is applied on the Principal instead of the Nominal, as it is done in the 'Discounted' method.

#### **Example**

Again, take the case of Ms Yvonne Cousteau's deposit of USD 10,000 under the scheme 'Short Term Deposits from Individuals', at 10% interest per annum, for a year.

Under the True Discounted type of interest payment method, the interest calculated on the principal, USD 9000, (arrived at after deducting 10% interest on the nominal – USD 10,000) is deducted from the nominal and USD 9,100 is accepted. This forms the actual principal of the deposit.

At maturity, Ms Yvonne Cousteau gets back USD 10,000.

#### **2.1.4 Specifying Accrual Related Details**

You have to specify two aspects about interest accruals:

- Whether accruals have to be carried out
- If yes, their frequency

For a product you should specify, through the Product ICCF Details screen, whether accruals have to be carried out. If yes, the frequency of accruals (whether daily, monthly, quarterly, half-yearly or annual), should be specified for the product through the Product Preferences screen. This will apply to the accrueable components of all contracts involving the product.

Accruals will be carried out at the specified frequency by the Automatic Contract Update function. In addition, interest will be accrued whenever a back-dated event (like a rate change with a Value Date, a payment, etc.) is triggered as of a date beyond the date on which the last accruals were carried out.

#### **2.1.5 Mode of Repayment**

The repayment schedules for interest should be defined for each contract. Depending on the mode of payment applicable, the interest will be liquidated, either automatically or manually, according to this schedule.

The mode of repayment for interest can either be automatic or manual. When the repayment is automatic, interest will be liquidated on the schedule repayment dates automatically by the Automatic Contract Update program. On the other hand, if the repayment is manual, instructions for liquidation should be entered in the system when the repayment is made.

The mode of repayment has to be specified for a product, but you can change it for a contract.

##### **2.1.5.1 Repayment type**

You can capitalize the interest payment on a contract by:

- Specifying the type of schedule (through the Product Preferences screen) as Capitalized. The contract inherits this from the product
- Specifying the frequency for the capitalization through the Product Default Schedules screen. The frequency can be changed for the deposit

The outstanding interest is added to the outstanding principal on the schedule date and this becomes the principal for the next schedule.

##### **Example**

You have specified that the interest should be capitalized for Ms Yvonne Cousteau's deposit of USD 20,000, and indicated the frequency as quarterly. The first schedule date is 30 June 1998. On this date, the outstanding principal on Ms Yvonne Cousteau's deposit is USD 20,000, and the outstanding interest at 20% is USD 986 for the first three months. Since it is to be capitalized, this is added to the principal and USD 20,986 becomes the principal on which the interest is calculated during the next quarter.

 Capitalization is done only for the “main” interest and only if it is a fixed interest of the bearing type.

You can have equated installments for the contract on the schedule dates by specifying Amortization as the schedule type and specifying the frequency. These repayment schedules will be drawn up taking into consideration the Principal and the Main Interest. If an amount is to be amortized, it should have fixed type of interest and bearing interest payment method.

If you specify the schedule type as Normal, you can tailor schedules for the various components to suit your needs.

A schedule date:

- Should be later than or the same as the Value Date
- You can have only one schedule, for a component for a date
- It cannot be beyond the Maturity Date

### 2.1.6 Applying Floating Interest Rate

The Interest Rate Type of a product can be one of the following: fixed, floating, or special.

A Floating Rate corresponds to the market rates for the day. These rates are maintained and updated daily (or whenever they change,) in the Floating Rates Table. The rates can be applied on a contract with or without a spread.

To access the Floating Interest 'Rate Code Definition' screen click on **Interest Rates** in the Application Browser. Click **Money Market /L&D Tenor Rates** and **Detail** under it.

| Amount Slab        | Effective Date | Borrow/Lend |
|--------------------|----------------|-------------|
| 999,999,999,999.00 | 25-MAR-2005    | MID         |
| 999,999,999,999.00 | 25-JAN-2005    | MID         |
| 999,999,999,999.00 | 15-JAN-2005    | MID         |
| 999,999,999,999.00 | 28-DEC-2004    | MID         |
| 999,999,999,999.00 | 16-MAR-2004    | MID         |
| 999,999,999,999.00 | 10-FEB-2004    | MID         |
| 999,999,999,999.00 | 01-JAN-2004    | MID         |

| Tenor | Unit | Int Rate     | Picked Rate Code |
|-------|------|--------------|------------------|
| 0     | DAYS | 7.0000000000 | LIBOR            |

Input By: SYSTEM Date Time: 28/12/2004 00:00:00 Auth By: SYSTEM Date Time: 28/12/2004 00:00:00 Mod No: Status: View Last Authorized: Open: Authorized: Save Cancel Refresh

The floating interest rates are defined through this screen. A Rate Code identifies a set of rates defined for a combination of Currency, Amount Limit (optional) and Effective Date. When processing a contract initiation, you should link it to the Floating Rate Table by indicating the Rate Code. The rates defined for the Rate Code will be applied on the contract.

## Rate Code and Currency

Each Rate Code is associated with a currency. You can define rates for the same Rate Code in different currencies.

### Example

You can have a Rate Code TERMDEP45 (with a description of Rates for a Term Deposit of 45 days). Thus, you can define a set of rates for contracts in U S Dollar and another set for contracts in Great British Pounds.

When you link a contract in US Dollars to the Rate Code TERMDEP45, the rates defined for this currency will be applied. Similarly, if the contract is in Great Britain Pounds, the rates defined for that currency will be applied.

## Rates and Effective Dates

Each rate that you define for a Rate Code and Currency combination should have an Effective Date associated with it. This is the date on which the rate comes into effect. Once a rate comes into effect, it will be applicable till a rate with another Effective Date is given for the same Rate Code and Currency combination.

The following example illustrates this point:

Rate Code TERMDEP45

Currency U S Dollar

| Effective Date | Interest Rate |
|----------------|---------------|
| 01 January '97 | 12.5%         |
| 14 January '97 | 12.0%         |
| 31 January '97 | 13.0%         |

These rates will be applicable as follows:

| Period                                     | Interest Rate |
|--|---------------|
| 01 January to 13 January '97               | 12.5%         |
| 14 January to 30 January '97               | 12.0%         |
| 31 January to one day before the next date | 13.0%         |

 The rates will be applied to a contract depending on whether it has been defined with Auto Rate Code Usage or Periodic Rate Code Usage. You can specify this in the Product ICCF Details screen.

## Specifying Rate Code Usage

If you specify Auto Rate Code usage, all the rate changes made during the liquidation or accrual period will be considered. If you specify periodic rate code usage, the rates will be periodically refreshed and the rates as of a specific frequency will be applied.

This frequency is specified in the Contract Schedules screen while the Rate Code Usage is specified in the Product ICCF Details screen.

The following example illustrates the concept:

**Example**

You have a deposit that has a Start Date as 1 October 1997 and a Maturity Date as 30 November 1997. The interest payment frequency is to be monthly. The contract has been defined with a floating rate.

The rates in the floating rate table change in the following manner:

| Effective Date  | Rate |
|-----------------|------|
| 1 October '97   | 12   |
| 12 October '97  | 11.5 |
| 25 October '97  | 11   |
| 15 November '97 | 12   |
| 30 November '97 | 12.5 |

If you want the floating rates to be applied automatically every time they change, you should specify Auto Rate Code usage in the Product ICCF screen. When you do this, if the first interest payment is to be done on 31 October, all the rate changes between 1 October and 31 October will be considered automatically.

The rates will be applied for the number of days for which they remained unchanged in the rate table, as follows:

| From       | To         | Rate |
|------------|------------|------|
| 1 October  | 11 October | 12   |
| 12 October | 24 October | 11.5 |
| 25 October | 31 October | 11   |

If you want the floating rates to be refreshed periodically on the deposit, you should first specify the rate code usage as periodic, through the Product ICCF Details screen. Next, you should define the rate revision schedules to specify when these rates should be applied on the deposit (that is, the frequency at which rates should be refreshed).

To do this, through the Contract Schedules screen, mark the component as a revision schedule (by choosing option 'R' in the drop down list) and specify the component (for example, INTEREST). Specify the frequency at which the interest rate has to be refreshed, say every fortnight. Specify the Start Date as, say, 15 October. That is, for a deposit defined with periodic rate code application, the rates prevailing on the dates at the frequency you have specified will be used for accruals and liquidation.

In the deposit we are discussing, with the frequency at which the rates should be refreshed defined as fortnightly and the Start Date as 15 October, the rate applied for the payment on 31 October will be as follows:

| From       | To         | Rate |
|------------|------------|------|
| 1 October  | 15 October | 11.5 |
| 16 October | 31 October | 11   |

## Floating Rates for Different Amounts

For a specific Rate Code and Currency combination, you can define an amount limit. A rate that has been defined for an Effective Date - Amount Limit combination will be applicable to an amount less than or equal to the specified amount. You can thus define interest rates for a slab structure.

The following example illustrates how you can do this.

### Example

Let us extend the example we discussed for Rates and Effective Dates to include amount limits.

| Amount (USD)  | Effective Date | Interest Rate |
|---------------|----------------|---------------|
| 10,000        | 01 January '97 | 12.5%         |
| 50,000        | 01 January '97 | 13.0%         |
| 999.9 million | 01 January '97 | 14.0%         |

If the rates have to be applied on 01 January '97, they will be picked up as follows:

- For a deposit with an amount less than or equal to USD 10,000, the rate will be 12.5%
- For a deposit with an amount greater than USD 10,000 and less than or equal to 50,000 the rate will be 13%
- For a deposit with an amount greater than USD 50,000 and less than or equal to USD 999.9 million the rate applied will be 14%

 Notice that a huge amount (999.9 million) has been given as the last amount limit. This denotes that after 50,000 there is no upper limit in the slab.

## Borrow/Lend Rate Indication

For every Amount Limit - Effective Date combination, you should define the rate to be applied as a borrow rate or a lend rate. Borrow rates are applied for loans taken by the bank and lend rates apply on placements (deposits). You also have the option to specify mid rate.

## Floating Rates and Tenor

The rates that will be applied for a given combination of Amount Limit – Effective date – Lend/Borrow Indication can be tenor based. In the table, you can define the interest rates for different tenors. The rate that will be applied to a contract will be based on the interest parameters specified in the Product ICCF Details Screen.

The index rate code which was picked up to derive the resultant composite rate will be stored as 'Picked Rate Code' for the effective date, which has the reset tenor zero.

The rates picked for the index rate codes will be for the maximum amount maintained in the amount slab. The composite rate rebuilt will be stored with the amount slab as "999,999,999,999.00". After applying the additional rate (specifically when the additional rate indicator is '-'), if the resultant rate becomes –ve, then it will be considered as 0 as –ve rate is not allowed.

## **2.1.7 Viewing the incremental changes made to the data**

In Oracle FLEXCUBE when the customer data is input for the first time, it is assigned the version number '1'. You have the facility to modify the data and each amendment of the data results in it being assigned the next version. You can view the changes made in each of the individual version using the version number panel.

The default view this maintenance will display the details of the latest version. To see the previous version, click on 'backward'. Click on 'forward' to view the next version.

The  section in the screen enables you to choose the version you wish to view. To view the previous version, click the  button. Click  to view the next version. The screen displays the data for that particular version.

You are allowed to delete previous unauthorized version in the reverse order of maintenance i.e. you have to first delete the latest unauthorized version and then delete the version maintained previous to that.

### **2.1.7.1 To view last authorized data**

You have the facility to view the latest authorized version in the Query Mode (F7 and F8). Once you execute the query, the system will display the latest authorized version.

 You are not allowed to create, copy, close, reopen or amend a record in the 'View Last Authorized' Mode.

### **2.1.8 Charging penalty interest**

Penalty interest is charged when a principal repayment is defaulted on. Penalty interest is charged either on the entire outstanding principal amount or on the principal schedule that is overdue, for the overdue period. You also have the choice of applying different penal interest rates for different overdue periods.

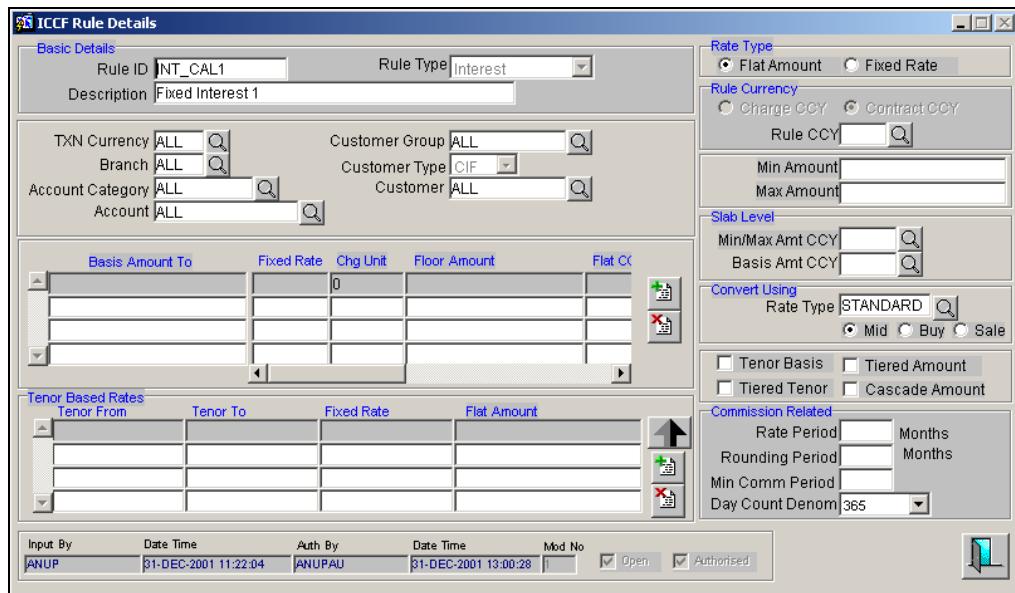
Let us assume that the total outstanding amount on a credit card is USD 10,000 as on September 30, 2002. The card customer is required to pay 10% of the total outstanding amount, i.e., USD 1,000 by October 05. On default, he is charged penalty interest at 2% per month, say, for the first two months, 3% per month for the next two months and 4% per month thereafter. The bank has the choice of charging this penalty interest on the entire outstanding principal of USD 10,000 or on the overdue principal of USD 1,000. The rate maintained for this overdue tenor will be applied.

## **2.2 Defining Interest Rules**

So far we have discussed the concept of a 'main' interest, the attributes of an interest component, and floating rate codes. Now we go on to definition of an Interest Rule.

An Interest Rule identifies the basic nature of an interest component. Each Interest Rule is defined by a four-character code, called the Rule ID. Attributes are defined for this Rule ID, which is then linked to a product. When a contract is processed, the interest attributes defined for the Rule ID linked to the product will be applied on the contract, some of which can be changed.

An Interest Rule is defined in the 'ICCF Rule Details' screen. To invoke this screen click on **Commission & Charges** in the Application Browser and then click on **ICCF Rule Detail/Summary** under it.



As you are defining an interest type of component, (that is, a tenor based component), you need to specify only the following details through the ICCF Rule Details screen:

- Rule Type
- Rule ID
- Rule Description
- Rule Currency and Customer combinations
- Rate Type
- Tenor Basis

All the other details of the component are to be specified through the Product ICCF Details screen.

## 2.2.1 Specifying Rule Type

The Rule Type identifies the type of ICCF component you are defining. In this case it is Interest. The attributes applicable for a component depends on its Rule Type.

For example, you can define any component that is tenor based – an annual fee, for example - as a component of Rule Type Interest. If INTEREST1 is your main interest, your annual fee can be defined as INTEREST2, as it is tenor based. Only on an Interest type of component can you have floating rates.

## 2.2.2 Specifying Rate Type

The Rate Type indicates whether the rate to be applied for the Rule ID is a flat amount or a percentage of the contract amount. Contract Amount, here, refers to the Principal amount in the case of a deposit.

The specific rates and amounts applicable have to be specified in subsequently through this screen. These rates or amounts can be changed during contract processing.

### **2.2.3 Defining ICCF Rule Application Factors**

You can apply an Interest Rule in the following manner:

- The rule can be applied on any contract, irrespective of the currency of the contract and the customer involved
- The rule can be applied on contracts in a particular currency only, irrespective of the customer involved
- The rule can be applied on contracts in a particular currency, involving a particular customer only

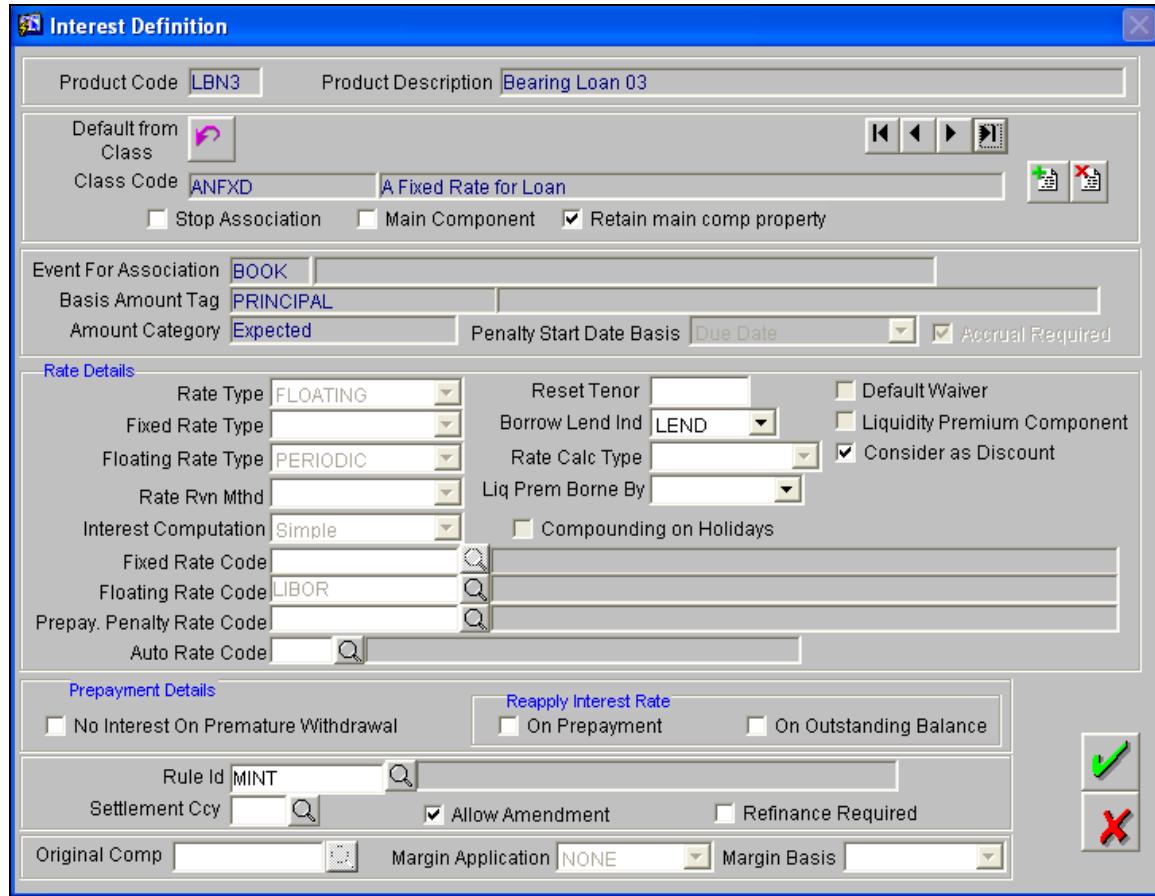
Thus, the most general interest application condition can be that an Interest Rule, which is applicable to contracts in *any* currency, and involving *any* customer.

An interim condition is when the Rule is applied on contracts in a *specific* currency, involving *any* customer. A Rule that is applied on contracts in a *specific* currency and involving a *specific* customer is a specific condition.

Once an Interest Rule has been defined, you can link it to a product. This linkage has to be achieved while defining the product. Thus, the definition of a product should ideally be preceded by the definition of all Interest Rules applicable to the product. If not, the product definition has to be put on hold, the Interest Rules defined, and then the product linked to the Interest Rules.

## 2.3 Defining Interest Details

You can specify the interest components applicable to a product in the Product Interest Definition screen. Click  from the 'LD Product Definition' screen, to invoke the 'Interest Definition' screen.



You should necessarily use an interest class that you have created, to indicate the interest components applicable to the product. An interest class is a specific type of interest component that you can build with certain attributes. You can build an interest class, for instance, with the attributes of a specific type of interest component, such as 'Fixed' interest for short-term deposits—FixSTD. When defining the interest component for a short-term deposit product, you can associate the interest class FixSTD.

### Associating an interest class with a product

To associate an interest class with a deposit product, click  in the Interest Definition screen. Select the appropriate Interest class from the list of classes, defined specifically for the Deposits module of Oracle FLEXCUBE.

The attributes defined for the interest class defaults to the product. You have the option to modify the attributes defined for the class, to suit the requirement of the product you are creating.

## Associating several interest classes with a product

You can associate several interest classes with a product. To add to the list of classes associated with the product, click the  button. Thereafter, click  and select a class from the option list that is displayed.

To navigate between the classes associated with a product, you can use the arrow icons that are provided.

To disassociate a class from the product, navigate to the class using the arrow icons described above and click the  button.

For an interest class, you can define the following:

### Dissociating an Interest class from a product

The interest classes defined for a product will be automatically applied to all contracts involving the product. If, for some reason, you want to stop applying a particular interest class to new contracts that are initiated (involving the product), you can do so by checking this field.

In effect, stopping the application of an interest class component for a product would be equivalent to deleting the class from the product. By specifying that the application of a class should be stopped, you have the advantage of using the definition made for the class again. To do this, all you have to do is uncheck this field. Contracts that are subsequently initiated will pick up the class.

### Specifying the main interest component

You can define any number of interest classes for a product. If you have defined more than one interest class, you can specify one of them as the main interest component. This will be the interest component that will be used for capitalization or amortization purposes if the repayment schedules are defined thus.

The details of this Main Component will be shown in the Contract Online screen and you can change them there without having to invoke the Contract ICCF Details screen. Components other than the main component have to be processed through the Contract ICCF Details screen.

### Specifying to retain main component properties

You can specify to retain the properties of main component for a particular component. The details of main component including gets applied to the selected component. And any changes made to the attributes of main component are reflected to this particular component also. When you select this option, you cannot enter the interest definition details either at product or contract level other than selecting this component for discount.

You have to define an interest class first with the amount category as 'Expected' and the same component can be linked at the product with 'Retain Main Comp Property' selected. As per this component, interest will be computed on Expected Balance which will later be used for IRR computation.



Rate revision schedule definition can not be done for such components.

### Specifying the event for association

The event, at which you would like to associate an interest component to a contract, is referred to as the Association Event. Specify the Association Event in this field.

At this event, no accounting entry (for the interest component) is passed.

### **Specifying the basis amount tag**

The basis on which interest is calculated is referred to as the Basis Amount. In this field, you have to specify the 'tag' associated with the Basis Amount. Interest will be calculated on the amount represented by this tag.

### **Specifying the amount category**

Indicate the category of the component on which the interest has to be applied. The available options are:

- Expected
- Overdue
- Outstanding

If the Basis Amount Category is Normal, the balance on which interest has to be applied will be the Expected Balance (assuming that all the scheduled repayments, defined for the contract, are made on time). An example of this category is the application of interest on the principal of a loan.

If the Basis Amount Category is Overdue, the balance on which interest has to be applied will be the amount that is outstanding, based on the repayment schedule defined for the contract. An example of this category is the application of penalty interest, on the principal or interest, when a repayment has not been made as per the schedule.

Select the applicable category using the drop down list. The system defaults to Normal.

An example of this category is the application of interest on the principal of a loan.

#### **Example**

Let us consider a loan of USD 1000, the contract spanning 10 months. The number of schedules by which the principal has to be paid back is 10 installments, each schedule amounting to USD 100.

The details are as follows:

|                            |                                  |
|----------------------------|----------------------------------|
| <b>Contract start date</b> | <b>1 March 1997</b>              |
| Contract end date          | 31 December 1997                 |
| Schedule dates             | End of every month               |
| Schedule frequency         | Monthly                          |
| Schedule amount            | USD 100 plus interest applicable |

The schedule details are given below:

| <b>Date</b>   | <b>Principal Schedule Amount</b> | <b>Expected Balance</b> |
|---------------|----------------------------------|-------------------------|
| 31 March 1997 | 100                              | 900                     |
| 30 April 1997 | 100                              | 800                     |
| 31 May 1997   | 100                              | 700                     |

| Date              | Principal Schedule Amount | Expected Balance |
|-------------------|---------------------------|------------------|
| 30 June 1997      | 100                       | 600              |
| 31 July 1997      | 100                       | 500              |
| 31 August 1997    | 100                       | 400              |
| 30 September 1997 | 100                       | 300              |
| 31 October 1997   | 100                       | 200              |
| 30 November 1997  | 100                       | 100              |
| 31 December 1997  | 100                       | None             |

When you specify the Basis Category as Expected, the interest will be applied on the Expected Balance.

#### **Specifying whether Interest is to be accrued**

For a product, you should specify whether accruals have to be carried out for the accrueable components. If yes, the frequency of accruals (daily, monthly, quarterly, half-yearly or annually) should be specified for each product (through the Product Preferences screen).

The accruals are carried out at the specified frequency by the Automatic Contract Update function. In addition, accruals are done whenever an event (like a rate change with a Value Date, a payment, etc.) is triggered as of a date beyond the date on which the last accruals were carried out.

#### **Specifying the penalty start day**

Oracle FLEXCUBE calculates the penalty in case the loan payment is not made on the schedule date. However, if the payment date falls on a holiday, the penalty can be calculated depending on the start date that you specify in this screen:

If you have specified that penalty start date basis as the **due date**, the penalty will be calculated from the due date of payment even if it falls on a holiday.

If you have specified that the penalty start basis be **next working day**, the penalty will be calculated from the working day following the holiday. Thus the system will waive the penalty for the holiday (s).

The Penalty Start Date basis specifications you maintain for the Interest Class will be defaulted here and the system will not allow you to change these options.

#### **Example**

Assume a loan principal payment schedule falls on 11<sup>th</sup> October 2003, which is maintained as a holiday in Oracle FLEXCUBE. In addition, there is a deficit of funds in the customer's account for making the payment.

If you have selected the due date option, Oracle FLEXCUBE will calculate the penalty from 11<sup>th</sup> October 2003.

If you have selected the next working day option, the system will calculate the penalty from 13<sup>th</sup> October 2003 and will waive the penalty for 11<sup>th</sup> and 12<sup>th</sup> October.

## Interest Rate Details

**Rate Type** - The Rate Type indicates whether the interest is a Fixed Rate, a Floating Rate or a Special amount. When creating a product, you should specify the Rate Type based on which interest will be computed.

**Floating Rate Code** - If the Interest Rate Type has been specified as Floating, indicate the Rate Code to which the product has to be linked. The Rate Code corresponds to the rates, defined in the Floating Rates table, that have to be applied for the product. A Rate Code identifies a set of rates defined for a combination of Currency, Amount (if it is necessary) and an Effective Date.

Select the Rate Code applicable for the product you are defining from the option-list provided. The Rate Code can be changed during contract processing.

**Floating Rate Type** - In addition, you should specify the method in which the rates in the Floating Rates table have to be applied on the deposit. It could either be automatic application (meaning the rate has to be applied every time it changes), or periodic application (meaning the rate has to be applied at a regular frequency, defined for each contract involving the product).

**Borrow Lend Ind** - For floating rate interest, you should also indicate if the interest rate for a given rate code to be applied, from the Floating Rates table, is the Borrow rate, Lend rate or Mid rate.

**Reset Tenor** - If interest rates are defined for the tenor of a contract, you should specify the Reset tenor. This will indicate the tenor for which the floating rate (when applied automatically) needs to be picked up from the Floating Rates Table, for contracts using this product.

**Rate Calc Type** - Interest rates based on the tenor of a contract could be applied in any of the following ways:

- Rate Cycle 'Down' - Indicates that the rate of the lower tenor slab should be used
- Rate Cycle 'Up' - Indicates that the rate of the upper tenor slab should be used
- Rate Cycle 'Interpolate' - Indicates that the rate should be interpolated between the rates of the upper and the lower slabs
- Rate Cycle 'Round-off' - Indicates that the tenor of the component should be rounded off to the nearest whole number. The rate defined for the derived tenor will be applied to the component.

### Example

The Floating Rates table has the following tenor-based interest rate definitions:

| Tenor | Interest Rate |
|-------|---------------|
| 5     | 12%           |
| 15    | 16%           |

The tenor of the contract to be processed is 9 days. This falls between the 5 day and 15 day slabs for which interest rates are defined in the table.

Depending on the Rate Cycle Type specified, the interest rate for 9 days will be applied as follows:

- Up: The interest rate for 15 days is applied i.e., 16%
- Down: The interest rate for 5 days is applied i.e., 12%
- Interpolated: The interest rate is interpolated from the available rates for 5 days and 15 days on a straight-line basis. The interest rate for 9 days will be 13.6%.
- Round Off: The tenor of the contract is rounded off to the nearest tenor value for which a rate is maintained. In this case, a rate of 12% is applied since the nearest tenor value for which a rate is maintained is 5 days. If the tenor of the contract were 12 days, the interest rate applied would be 16%

 You can specify the various floating rate parameters explained above for a fixed rate type of interest. The appropriate floating rate is then applied at the beginning of the contract, however this rate will subsequently remain fixed during the contract.

**Fixed Rate Type** - If the rate type is 'Fixed', you have to indicate whether the rate would be entered by the user or needs to be picked up from the rate maintenance table. The following options are available:

- User Input (U) – This option may be used if you want the user to specify the rate of interest applicable on the contract.
- Standard (S) – If you opt for this option, the system will pick-up the rate from the Standard Rate Maintenance screen. This rate will be a combination of the Standard Rate, Amount-Slab-Wise Spread and Tenor-wise Spread. However, you can change this rate at the contract level.
- Agency - If the loan product is of 'Agency Contract' type (specified in the 'Loans and Deposits – Product Preferences' screen), select the rate type as 'Agency'. The system allows you to associate only those interest components with the loan product for which 'Rate Type' is 'Fixed' and 'Fixed Rate Type' is 'Agency'.

For more details, refer the section titled 'Identifying products for agency contract creation' in the 'Defining the Attributes specific to a Loan product' chapter of the 'Loans' User Manual.

**Interest Computation** - You have to specify the method to be used for computation of interest. The available options are:

- Simple - indicates that the interest would be computed using the Simple Interest formula
- Compound - indicates that the interest would be compounded

**Compounding on holidays** - You can opt to compound interest on holidays. Select the 'Compounding on Holidays' option to indicate the same.

 The 'Interest Computation' and 'Compounding on Holidays' options are available only for **Loan and Deposit** products. These options can be specified only for a product. You cannot change them at the contract level.

**The example given below explains the method used for compounded interest calculation:**

Assume that you have a **Normal-Bearing** contract with the following details:

- Value Date - 2<sup>nd</sup> April '02
- Maturity Date- 10<sup>th</sup> April 02
- Principal Amount - 10, 000, 000.00
- Rate of Interest - 10 % (Main Interest Component)
- Holiday - 6<sup>th</sup> April 02

Further, the contract has Interest and Principal payment as bullet schedules.

**Case 1:**

Now, if you opt for 'Interest Computation' method as 'Compound' and compound interest on holidays, the computation of compounding Interest would be done as shown below:

| Schedule Date | Start Date | End Date | Basis Amount | Compound Interest | Rate  | Calculated Amount | No of Days | Daily Ave. Amount |
|---------------|------------|----------|--------------|-------------------|-------|-------------------|------------|-------------------|
| 04-02-02      | 04-01-02   | 04-02-02 | 10,000,000   | 0.00              | 10.00 | 2,739.73          | 1          | 2,739.73          |
| 04-03-02      | 04-02-02   | 04-03-02 | 10,000,000   | 2,739.73          | 10.00 | 2,740.48          | 1          | 2,739.73          |
| 04-04-02      | 04-03-02   | 04-04-02 | 10,000,000   | 5,480.21          | 10.00 | 2,741.23          | 1          | 2,739.73          |
| 04-05-02      | 04-04-02   | 04-05-02 | 10,000,000   | 8,221.44          | 10.00 | 2,741.98          | 1          | 2,739.73          |
| 04-07-02      | 04-05-02   | 04-06-02 | 10,000,000   | 10,963.42         | 10.00 | 2,742.73          | 1          | 2,739.73          |
| 04-07-02      | 04-06-02   | 04-07-02 | 10,000,000   | 13,706.15         | 10.00 | 2,743.48          | 1          | 2,739.73          |
| 04-08-02      | 04-07-02   | 04-08-02 | 10,000,000   | 16,449.63         | 10.00 | 2,744.23          | 1          | 2,739.73          |
| 04-09-02      | 04-08-02   | 04-09-02 | 10,000,000   | 19,193.86         | 10.00 | 2,744.98          | 1          | 2,739.73          |
| 04-10-02      | 04-09-02   | 04-10-02 | 10,000,000   | 21,938.84         | 10.00 | 2,745.74          | 1          | 2,739.73          |

**Case 2:**

If you select the 'Interest Computation' method as 'Compound' but do not opt for compounding interest on holidays, the computation of compounding Interest would be as shown below:

| Schedule Date | Start Date | End Date | Basis Amount | Compound Interest | Rate  | Calculated Amount | No of Days | Daily Ave. Amount |
|---------------|------------|----------|--------------|-------------------|-------|-------------------|------------|-------------------|
| 04-02-02      | 04-01-02   | 04-02-02 | 10,000,000   | 0.00              | 10.00 | 2,739.73          | 1          | 2,739.73          |
| 04-03-02      | 04-02-02   | 04-03-02 | 10,000,000   | 2,739.73          | 10.00 | 2,740.48          | 1          | 2,739.73          |
| 04-04-02      | 04-03-02   | 04-04-02 | 10,000,000   | 5,480.21          | 10.00 | 2,741.23          | 1          | 2,739.73          |
| 04-05-02      | 04-04-02   | 04-05-02 | 10,000,000   | 8,221.44          | 10.00 | 2,741.98          | 1          | 2,739.73          |
| 04-07-02      | 04-05-02   | 04-07-02 | 10,000,000   | 8,221.44          | 10.00 | 5,483.96          | 2          | 2,739.73          |
| 04-08-02      | 04-07-02   | 04-08-02 | 10,000,000   | 13,705.40         | 10.00 | 2,743.48          | 1          | 2,739.73          |
| 04-09-02      | 04-08-02   | 04-09-02 | 10,000,000   | 16,448.88         | 10.00 | 2,744.23          | 1          | 2,739.73          |
| 04-10-02      | 04-09-02   | 04-10-02 | 10,000,000   | 19,193.11         | 10.00 | 2,744.98          | 1          | 2,739.73          |

**Fixed Rate Code** - You would have maintained several Standard rate codes in the 'Standard rate code maintenance' screen. Subsequently, you would have also maintained the rates for each of these codes in the 'Standard Rate Maintenance' screen.

If you select the Fixed Rate Type as 'Standard', you have to select the appropriate rate code from the option-list provided. The Standard rates maintained for the selected rate code will be applicable on all contracts processed under the product being maintained.

**Prepayment Penalty Rate Code** - Likewise, select the rate code based on which the system will pick-up the prepayment penalty rate for all contracts under the product.

### **Specifying the prepayment details**

**Waiving interest on premature withdrawal** - You can opt to waive Interest on premature withdrawal of the deposit. Select the 'No interest on premature withdrawal' option to indicate that interest needs to be waived if premature withdrawal (partial or full) is done for the deposit.

**Reapplying Interest rate on prepayment** – If the 'Fixed' rate type is 'Standard', you can opt to reapply interest when a prepayment is made.

You can reapply interest on one of the following:

- On Prepaid Amount – Select this option to indicate that interest on the prepaid amount would be recalculated during prepayment based on the rate applicable for the current tenor of the deposit.
- On Outstanding Balance – This option will indicate that interest will be recalculated on the outstanding balance during prepayment based on the rate applicable for the current tenor of the deposit.

### **Specifying the Rule ID**

You can link a rule to a product. In the Product ICCF Details screen, in the Rule ID field, pick the rule you wish to link to the product. For an interest type of rule, all the interest-related details have to be specified in the Product ICCF Details screen.

#### **Example**

For a deposit, you can link a rule for the main interest and another interest type of rule for a commission you want to charge on the deposit. Besides, this, you can have a rule for a charge. Thus, the product will have three rules linked to it. For the deposit, you can retain all these, or waive one or more, as per your requirement.

The interest details defined for a product will be automatically applied on a contract involving the product. However, you can change certain attributes of interest, for a specific contract.

### **Specifying the Settlement Currency**

The Settlement Currency is the currency in which the interest amount will be calculated. The interest amount applicable for a contract will be calculated in this currency. The appropriate conversion rate (defined for the product as the applicable Rate Type) will be applied to carry out a conversion if the repayment account is in a different currency.

### **Specifying whether Interest Details can be amended**

A change to a contract (after it has been authorized) that involves a change in its financial details constitutes an Amendment on the contract. You can indicate whether such an Amendment, called a Value Dated Change, should be allowed for the interest component being defined.

You can amend the following through this function:

- Interest rate
- Rate code
- Spread

- Interest amount
- Acquired interest - If the contract was already initiated when it was input, the interest amount that has been accrued should be entered here. The amount will be taken into account during the next liquidation cycle. You can make changes to the acquired interest through this screen.
- Waiver - The attributes of an interest component that have been defined for a product will be applied on a contract involving the product. If, for some reason you do not want to apply the interest component for the contract you are processing, you can do so by checking this field. The interest will be calculated but it will not be applied on the contract.

To amend a contract, you have to invoke the Contract Interest, Charge and Fee screen of the ICCF module through the Value Dated Changes function.

#### **Specifying whether refinancing is required**

While creating a deposit product, you have the option of indicating whether the accruals/liquidations involving a particular component should be tracked for refinancing. Check the box positioned next to this field to indicate that Refinancing is required

#### **Specifying the original component**

If you enable the 'Refinancing Required' option, you will have to identify the original component for the refinance component.

#### **Enabling the Consider as Discount option**

While defining an interest component for either the loans or the bills module, you can indicate whether the interest component is to be considered for discount accrual on a constant yield basis.

The consider as discount option is available for

- Export Bill products, for the Discount operation
- Discounted or True Discounted loans

The value of this field is defaulted from the Interest Class Definition screen. However you can change it over here.

For Bearing contracts, if the option 'Consider as Discount' is checked then the option 'Accrual Required' also has to be checked. If the option 'Accrual Required' is not checked, the option 'Consider as Discount' is disabled.

For Discounted contracts, you can select either one of the options or both together. If the options 'Accrual Required' and 'Consider as Discount' are selected then discounted interest is considered for IRR calculation. If the option 'Accrual Required' is not selected and 'Consider as Discount' is selected, then discounted interest is considered a part of the total discount to be accrued.

If neither option is selected, the interest is directly recognized as income during interest liquidation.



This option is not available if the amount category is Penalty.

## 2.4 Capturing Composite Rate for Loans

You can link composite rate codes to loans. Based on the formula maintained at the composite rate maintenance, system derives at a composite rate for floating rate.

To link composite rate code with an LD product, you need to select composite rate code from the list of options available for 'Floating Rate Code' from the 'ICCF Details' screen. To link composite rate code with LD contract, select composite rate code from the list of options available for 'Float Code' in the contract online screen. During reprice, composite rate code can be linked to a contract by selecting 'Rate Code' available in Reprice Screen. Any rate change in Head Office for the index rate codes will trigger a re-pickup of the rate for composite rates also and propagate the same to other branches for composite rate code. Branch wise changes to the index rate codes will not be considered for re-pickup of composite rate code.

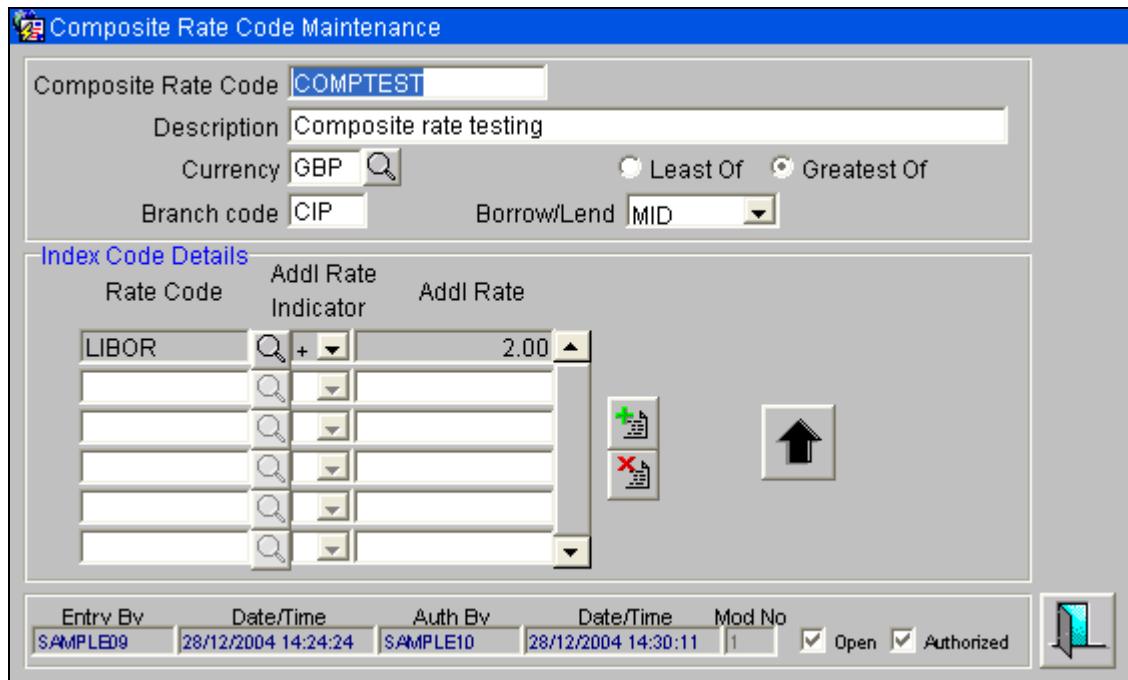
 At any point there can be either a composite rate code or a floating rate code, both cannot co-exist in a single contract. Composite rates are supported for Floating Periodic Auto and Floating Automatic type of loans. Composite rate code definition will not have any impact on the rate revision of a contract.

If there is any change in the index codes for a Composite rate code, the underlying Floating Automatic type of contracts are impacted and the new rate will be arrived based on the derivation logic on that day's EOD. In case of Floating Periodic Auto type of loans, the rate will be derived on the EOD of the revision schedule. There will be no impact of back value rate change of the index codes on the underlying Floating Periodic (Auto) type of Contracts.

### 2.4.1 Maintaining Composite Rate Codes

You can maintain the composite rate code from the head office using 'Composite Rate Code Maintenance' screen.

You can invoke the screen select **ICCF Maintenance** from the **Application Browser**. Select **Composite Rates** thereafter.



| Rate Code | Addl Rate Indicator | Addl Rate |
|-----------|---------------------|-----------|
| LIBOR     |                     | 2.00      |
|           |                     |           |
|           |                     |           |
|           |                     |           |
|           |                     |           |
|           |                     |           |
|           |                     |           |

Specify the following details here:

**Composite Rate Code**

Specify the code you wish to maintain for the composite rate.

**Description**

Specify a small description for the composite rate code.

**Currency**

Select the currency for which the composite rate code is maintained.

**Branch Code**

Select the branch for which the composite rate code is maintained.

**Rate Function**

Select if the composite rate should be the least or greatest of the rates maintained plus the additional rate for the rate codes.

Following index code details are populated here:

- Rate Code
- Addl Rate Indicator
- Addl Rate

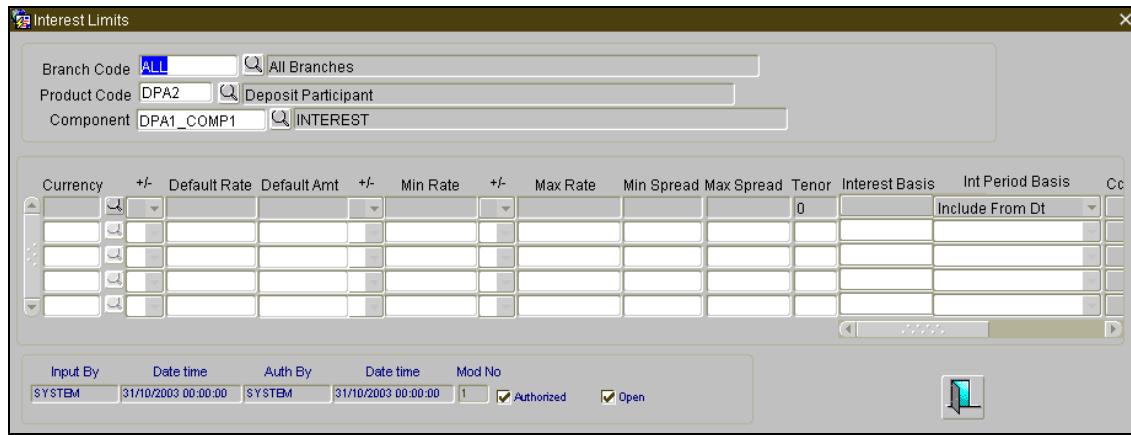
You can perform following operations in the 'Composite Rate Code Maintenance' screen:

- New
- Unlock
- Save
- Authorize

## 2.4.2 Specifying limits for Interest Rate Application

You can maintain tenor based, currency-wise interest limits for a combination of Product and Interest Component through the Interest Limits screen.

When an interest class for which currency-wise interest limits have been maintained is associated with a Loans or Money Markets product (in the Interest Definition screen), the product inherits the limits, by default. Such default limits can be modified if required, when the interest limits for the product and branch combination are maintained, in the 'Interest Limits' screen.



This maintenance would be applicable for all contracts for which:

- The interest component for which the limits have been maintained, is applicable
- The product used is the product for which the limits have been maintained
- The contract branch is the branch for which the interest limits have been maintained
- The contract currency is one of the currencies for which interest limits have been maintained, for the interest component, product and branch combination.

You can maintain the following information to set up the tenor-based, currency-wise interest limits for a product, interest component and branch combination:

### For Fixed Rate products

- The standard rate that is applicable for contracts involving the product
- The Minimum and Maximum interest rate that can be applied on a contract

If the interest rate specified for a contract is less than this minimum rate, the minimum rate will be applied on the contract. Similarly, if the interest rate specified for a contract is greater than this maximum rate, this rate will be applied on the contract.

By defining minimum and maximum rates for a fixed interest, you can ensure that your rates stay within the stipulated limits.

For penal interest components, you can specify the overdue tenor for which the penalty interest should be applied.

### For Rate Products

For Floating Rate products, specify the Minimum and Maximum spread that can be applied on the floating rate.

If the spread specified during contract processing is less than the value specified as the minimum spread, this value will be picked up as the spread. Similarly, if the spread specified during contract processing is more than the value specified as maximum spread, this value will be picked up as the spread.

By defining minimum and maximum spread for floating interest, you can ensure that your spread stays within the stipulated limits.

The rate maintained for the maximum tenor is used if the Overdue days extend beyond the maximum tenor maintained.

The interest for each currency is calculated using the interest basis, which you select:

- 30 Euro / 360
- 30 US / 360
- Actual / 360
- 30 Euro / 365
- 30 US / 365
- Actual / 365
- 30 Euro / Actual
- 30 US / Actual
- Actual / Actual

*Each of these interest bases has been explained in detail in the Currency Maintenance chapter of the Core Services manual.*

### **Specifying the interest period basis**

You can indicate how the system must consider the tenor basis upon which interest is computed over a schedule or interest period, in respect of the interest component for which the limits are being maintained, which is associated with the selected product. Currency-wise interest period bases may be maintained. This specification is inherited from the interest component class being chosen.

You can choose any of the following options:

- Including the From Date
- Including the To Date
- Including both From and To Dates
- Excluding both From and To Dates

*For details about the four options, refer the section Specifying the Interest Basis under the head Building Interest Classes, in this user manual.*

### **Capturing the Default Amount or Default Rate for Late Payment Charge**

For components defined with Rate Type 'SPECIAL' in 'Interest Class Maintenance' screen, you can specify a default flat amount or a default rate at the interest limit level which is defaulted to the 'Interest Limit' screen.

Based on the value of 'Special Rate Type', you can either maintain the 'Default Rate' or 'Default Amount' for late payment charge applicable to the loan product.

If the value of 'Rate Type' is 'SPECIAL' and 'Special Rate Type' is 'FIXED' in the 'Interest Class Maintenance' screen, then you can specify the default fixed rate to be applied as late payment charge to all loans created under this loan product.

You can specify the default late payment charge (either fixed rate or flat) by selecting the loan product code and the late payment charge component. This component should already be linked to the loan product via the 'Interest Definition' screen.

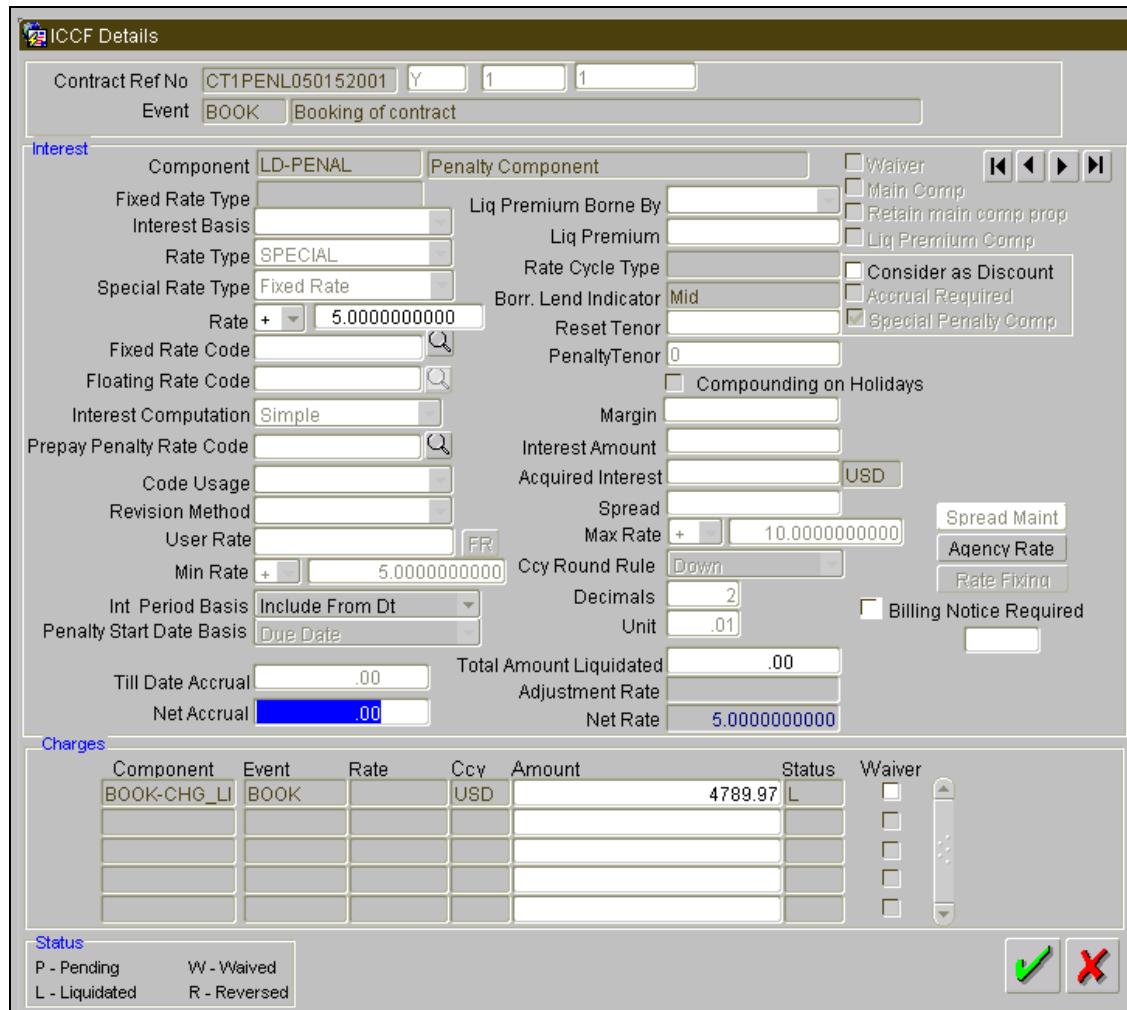
## 2.5 Specifying Interest Details for a Contract

When the details of a contract are captured, the interest details defined for the product involved will automatically be applied on the contract. However, you can change certain attributes.

At the time of processing the contract, you can change the following attributes:

- The rate for contracts with a fixed rate
- The rate code for contracts with floating/fixed rate. The spread defined for a rate code can also be changed
- Consider as Discount and Accrual Required options

From the Contract On-line screens, click  to access the Contract 'ICCF Screen'.



The screenshot shows the 'ICCF Details' window with the following details:

**Interest Section:**

- Contract Ref No: CT1PENL050152001
- Event: BOOK
- Interest Basis: SPECIAL
- Rate Type: SPECIAL
- Special Rate Type: Fixed Rate
- Rate: 5.0000000000
- Fixed Rate Code: (empty)
- Floating Rate Code: (empty)
- Interest Computation: Simple
- Prepay Penalty Rate Code: (empty)
- Code Usage: (empty)
- Revision Method: (empty)
- User Rate: FR
- Min Rate: 5.0000000000
- Int. Period Basis: Include From Dt
- Penalty Start Date Basis: Due Date
- Till Date Accrual: .00
- Net Accrual: .00
- Penalty Component: LD-PENAL
- Waiver: (checkbox)
- Main Comp: (checkbox)
- Retain main comp prop: (checkbox)
- Liq Premium Corp: (checkbox)
- Rate Cycle Type: (empty)
- Borr. Lend Indicator: Mid
- Reset Tenor: (empty)
- Penalty Tenor: 0
- Compounding on Holidays: (checkbox)
- Margin: (empty)
- Interest Amount: (empty)
- Acquired Interest: USD
- Spread: (empty)
- Max Rate: 10.0000000000
- Spread Maint: (checkbox)
- Agency Rate: (checkbox)
- Rate Fixing: (checkbox)
- Ccy Round Rule: Down
- Decimals: 2
- Unit: .01
- Billing Notice Required: (checkbox)
- Total Amount Liquidated: .00
- Adjustment Rate: (empty)
- Net Rate: 5.0000000000

**Charges Section:**

| Component   | Event | Rate | Ccy | Amount  | Status | Waiver     |
|-------------|-------|------|-----|---------|--------|------------|
| BOOK-CHG_LI | BOOK  |      | USD | 4789.97 | L      | (checkbox) |
|             |       |      |     |         |        | (checkbox) |
|             |       |      |     |         |        | (checkbox) |
|             |       |      |     |         |        | (checkbox) |
|             |       |      |     |         |        | (checkbox) |

**Status:**

- P - Pending
- L - Liquidated
- W - Waived
- R - Reversed

Buttons:  

It is possible to define more than one interest component. You can have several interest components, which you link to a product. The contract involving the product, in turn, will be linked to these interest rules.

#### **Example**

There can be one interest rule for the main interest (for example, 14%). You can have a tenor-based commission defined as an interest rule for the same product (for example, 3%). Both these will be applicable to the contract.

In the Contract ICCF Screen use the set of four buttons  to go to the next or previous or the first or last component that has been linked.

#### **Specifying the Fixed Rate Type**

For a 'Fixed' rate type, this indicates whether the rate would be user specified or will be picked up from the rate maintenance table. The options are:

- User Input (U) – This option indicates that the user will specify the rate of interest applicable on the contract
- Standard (S) – This option indicates that the system picks-up the rate from the Standard Rate Maintenance screen. This rate will be a combination of the Standard Rate and Tenor-wise Spread

This specification is defaulted from the deposit product involved in the contract and you cannot change it at the contract level.

#### **Choosing the applicable rate from historical rates**

For contracts involving fixed rate interest components, your bank may require choosing the applicable rate from historical floating rates for a floating rate code that has been maintained for a treasury source. For such requirements, select the TREASURY option in the Fixed Rate Type field in the Contract ICCF Details screen.

To select the applicable floating rate from those available for the rate code maintained for the designated default treasury, click the  button alongside the User Rate field. The Treasury Floating Rates Maintenance screen is opened, with the historic floating rates for the rate code displayed. You can choose the required rate for the desired effective date, in this screen. The rate you select is displayed in the Rate field in the Contract ICCF Details screen. You can also specify an appropriate spread.

For all future interest computations, fixed rate contracts for which such historic floating rates have been specified are processed as fixed rate contracts for which the applicable rates are derived from the user rate and the specified spread.

 This feature is applicable only for the Loans and Money Market modules.

For a component with 'Rate Type' as 'SPECIAL' and 'Special Rate Type' as 'Fixed Rate', system defaults the value of 'Default Rate' maintained in the 'Interest Limits Maintenance' screen to the 'Rate' field for the late payment component. However, you can edit this value during contract input.

#### **Special Rate Type**

System defaults the maintenance done for 'Special Rate Type' in the 'Interest Limits Maintenance' screen. However, you can edit this value and select the special rate type from the adjoining drop-down list. This list displays the following values:

- Fixed Rate
- Flat Amount

### Specifying the Fixed Rate Code

If the Fixed Rate Type is 'Standard', this indicates the Standard Rate Code based on which the system will pick up the rate applicable on the contract.

This specification will be defaulted from the product. However, you are allowed to change it at the time of contract processing.

### Specifying the Penalty Rate Code

If pre-payment penalty is allowed for the deposit product, select the rate code based on which the system will pick-up the prepayment penalty rate for the contract.

This specification will also be defaulted from the product. However, you are allowed to select a different rate code at the contract level.

### Choosing Revision Method

Select the revision method option for the periodic floating type of loans from the list of option provided:

- Auto
- Manual

### Enabling the Consider as Discount option

While defining an interest class for either the loans or the bills module, you can indicate whether the interest component is to be considered for discount accrual on a constant yield basis.

The value for this field is defaulted from the Interest Definition and it can be changed here.

If 'Accrual Required' option is not selected then 'Consider as Discount' option is disabled for Bearing Contracts.

If you select this option the interest received against the component is used in the computation of the constant yield and subsequently amortized over the tenor of the associated contract.

 You will be allowed to enable the Consider as Discount option for loans only when the payment method specified is Discounted or True Discounted and for the Discount operation for Export bills.

For bearing type of contracts, all future interest cash flows are considered for computation of constant yield. For discount type of contracts, only the interest amount received for the components with the 'Consider as Discount' option enabled are considered for the computation of constant yield; subsequently the interest amount received in advance for these components is amortized over the tenor of the associated contract.

### Specifying whether the Interest Component is to be accrued

While defining an interest class for either the loans or the bills module, you can indicate whether the interest component is required to be accrued.

The value for this field is also defaulted from the Interest Definition screen. However, you can change it here.



If both 'Consider as Discount' and 'Accrual Required' fields have not been enabled for the product, you cannot enable these for contracts.

If the 'Special Penalty Component' box is checked for a component, then system will uncheck the 'Accrual Required' box for such components and disable it.

### **Special Penalty Comp**

System automatically checks this box for late payment charge components (based on the maintenance done in 'Interest Class Maintenance' screen) and you cannot modify it.

### **Specifying the interest period basis**

You can indicate how the system must consider the tenor basis upon which interest is computed over a schedule or interest period, in respect of interest components applicable for the contract. This preference is inherited from the Interest Limits definition for the product used by the contract, and you can change the default option chosen.

You can choose any of the following options:

- Including the From Date
- Including the To Date
- Including both From and To Dates
- Excluding both From and To Dates

*For details about the four options, refer the section 'Specifying the Interest Basis' under the head 'Building Interest Classes', in this User Manual.*

### **Waiving an Interest Rule**

You have the option of waiving those rules (defined for the product), which you do not wish to apply on a contract.

#### **Example**

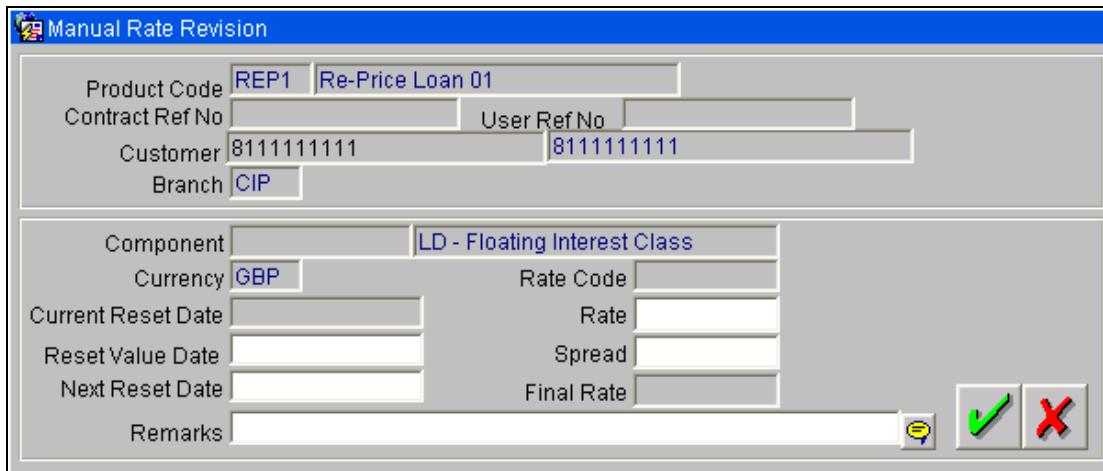
For a product, there can be one interest rule for the main interest (for example, 14%). You can have a tenor-based commission defined as an interest rule for the same product (for example, 3%). Both these will apply to contracts involving the product. However, you can waive these rules for a specific contract. For instance, you can waive the 3% commission on the contract (by checking the Waive field.)

### **Interest Amount**

System defaults the value maintained for 'Default Amount' in the 'Interest Class Maintenance' screen for a late payment component which has 'Rate Type' as 'SPECIAL' and 'Special Rate Type' as 'Flat Amount'. However, you can edit this value during contract input.

## 2.5.1 Capturing Rate Fixing

You can fix the rate of interest for floating periodic manual type of loans while contract booking. Click 'Rate Fixing' button in the 'ICCF Details' screen, the 'Manual Rate Revision' screen gets displayed.



You can specify the periodic rate manually here.

The following details in the screen are displayed from the parent screen:

- Product Code
- Contract Ref No
- User Ref No
- Customer
- Component
- Currency
- Rate Code
- Current Reset Date

### Reset Value Date

Specify the effective date from which the rate should be applicable for the contract.

### Next Reset Date

Specify the end date of rate effective end date. The last effective date of the rate entered here.

### Rate

The interest rate applicable for Main Interest Component is defaulted from previous period. However you can edit it.

### Spread

The spread rate applicable for the Main Interest Component (User Input) is from the previous period. However you can edit it.

Final Rate, the net rate applicable for the Contract (Rate + Spread) gets displayed here.



Current Reset Date will be populated as Value date of the contract for both current dated and back valued contracts

You can perform following operations in the 'Manual Rate Revision' screen:

- NEW
- UNLOCK
- SAVE
- AUTHORISE

### **2.5.2 Amending Interest Components**

Once a contract is authorized, any change in details that would affect the financial information of the contract has to be made through the Value Dates Changes function.

If a Value Dated Change demands a change in interest, you can change the following in the ICCF screen (invoked through the Value Date Changes screen):

- Interest basis
- Rate
- Rate Code
- Acquired Interest
- Rate Code
- Spread
- Amount of charge or fee

### **2.5.3 Defining Interest Repayment Schedules**

You can define interest payment schedules for the product. These will be applicable to all contracts involving the product. But at the time of processing a contract you can change the schedules to suit its requirements.

In defining interest payment schedules, both for the product and the contract, the following steps are involved:

- First define schedule preferences or attributes
- Then define the actual schedules

### **2.5.4 Defining interest Payment Schedules for the Product**

You have to specify the following attributes or preferences through the Product Preferences screen:

- Mode of liquidation - auto or manual. This can be changed at the time of contract processing
- Liquidation of back valued schedules upon initiation of a contract. This can be changed at the time of contract processing
- Re-computation of interest on the future schedules of a contract when a repayment of principal is made before it is due
- The schedule type - amortized, capitalized or normal

Once these attributes of the schedules are defined in the Product Preferences screen, the frequency of repayments has to be defined through the Product Schedules screen.

If you do not define any schedules for the product, by default, the contracts involving the product will have bullet (or balloon) schedules. That is, all the components will be liquidated at maturity.

### **2.5.5 Defining Interest Payment Schedules for the Contract**

Schedule preferences are the attributes of the repayment schedules defined for the contract. Through a set of fields in the Contract Preferences screen, you can specify:

- How liquidation dates falling on holidays should be handled
- Whether back valued schedules should be liquidated on deposit initiation
- The type of amortization, if amortization has been specified for the product and therefore, the deposit
- Whether schedule dates should be cascaded in case you have indicated that they (schedule dates) be moved forward or backward in case of a holiday
- The holiday table of the country of the deposit currency that has to be checked before setting automatic schedules

Certain attributes are inherited from the product and these can be changed here:

- Liquidating schedules that fall due before the day on which the contract is booked
- Liquidation mode (auto to manual)

The schedule type - amortized, capitalized, or normal is inherited from the product and displayed for the contract.

### **2.5.6 Revision Schedules and Repayment Schedules**

In the Contract Schedules screen, you can define two types of schedules:

- Those for the revision of interest rates for a contract with floating interest rates

Those for repayment of the various components

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## 3. Building Interest Classes

### 3.1 Introduction

A class is a specific type of component that can be built with certain attributes. For instance, for a Security, you can build an interest class with the attributes of a specific type of coupon, the quarterly coupon paid on the current face value.

This chapter explains how interest classes are built and how attributes are defined. The building of interest classes is applicable to Securities and Derivatives products and contracts. You can use the information in this chapter to process interest components for Securities and Derivatives contracts.

When building an interest class, certain attributes, such as the following can be defined:

- The module in which you would use the class
- The interest type
- The association event
- The basis amount on which the interest is paid
- The rate type
- The default rate code (for floating interest)
- The default tenor

You can define the attributes of an interest class, in the 'Interest Class Definition' screen, invoked from the **Application Browser**.

The screenshot shows the 'Interest Class Definition' screen with the following details:

- Class Code:** LD-PENAL
- Description:** Penalty Component
- Module:** LD (Loans and Deposits)
- Interest Type:** Primary Interest (selected)
- Propagation Req'd:** Selected
- Event For Association:** BOOK (Booking of contract)
- Basis Amount Tag:** SCH\_AMT\_OS (SCHEDULE Outstanding)
- Amount Category:** SCH-OVERDUE
- Rate Details:**
  - Rate Type: SPECIAL
  - Special Rate Type: Fixed Rate
  - Fixed Rate Type: (dropdown)
  - Floating Rate Type: (dropdown)
  - Rate Revision Method: (dropdown)
  - Interest Computation: Simple
  - Default Fixed Rate Code: (dropdown)
  - Default Floating Rate Code: (dropdown)
  - Prepayment Penalty Rate Code: (dropdown)
  - Auto Rate Code: (dropdown)
- Interest Type:**
  - No Interest on Premature Withdrawal: Unselected
  - Reapply Interest: On Prepaid Amount (selected)
  - On Outstanding Amount: Unselected
- Rule Id:** LD-INT
- Settlement CCY:** EUR
- Margin Application:** NONE
- Margin Basis:** (dropdown)
- Original Component:** (dropdown)
- Refinance Required:** Unselected
- Amend after association:** Selected
- Input By:** TEST03
- Input Date Time:** 28/12/2004 15:39:09
- Auth By:** TEST02
- Auth Date Time:** 28/12/2004 15:39:34
- Mod No:** 2
- Status:** Open (checked)
- Authorised:** Authorised (checked)

Before defining the attributes of an interest class, you should assign the class a unique identifier, called the Class Code and briefly describe the class. A description would help you easily identify a class.

### Specifying the Module

An interest class is built for use in a specific module. This is because; an interest component would be applied on different basis amounts, in different modules.

#### Example

In the Derivatives module, you would apply interest on the principal amount. In the Securities module, you can have coupons on the basis of the current face value. The basis on which the component is calculated is different in these two cases.

Basis Amount Tags available would depend on the module for which you build the class.

### The Interest Type

While building an Interest Class, you can define two kinds of interest:

- Primary Interest
- Coupon

### **Example**

While building an Interest Class for the Securities module, you can only define Coupon details.

When building interest class for the Derivatives module, you can only define primary interest details. Subsequently you are also required to specify whether the interest type is applicable for the in leg or for the out leg of contracts linked to this class

### **Events**

The term Event can be explained with reference to a deal. A deal goes through different stages in its life cycle, such as:

- Contract Booking
- Money Settlement of contract
- Reversal of a contract
- Cancellation of a contract

Each stage is referred to as an Event in Oracle FLEXCUBE.

The event at which you would like to associate the interest component, being defined, to a contract is referred to as the Association Event.

### **Basis Amount Tag**

The basis on which an interest is calculated is referred to as the Basis Amount. When building an interest class, you have to specify the tag associated with the Basis Amount.

For instance, a coupon can be on the basis of the current face value of a security.

The attributes defined for an interest class, will default to all products with which you associate the class. When maintaining interest details for a product, you can change these default attributes. Contracts maintained under a product will acquire the attributes defined for the loan product.

 The amount tag 'SCH\_AMT\_OS' is the basis for calculation of late payment charge. It constitutes the total amount outstanding across all components due on a particular schedule date, provided late payment charge is applicable to these components. If you select the Basis Amount Tag as 'SCH\_AMT\_OS', then the following checkboxes are disabled:

- Primary Interest
- Consider as Discount
- PIK Component

### **Specifying the amount category**

Indicate the category of the component on which the interest has to be applied. The available options are:

- Expected
- Overdue
- Normal
- Outstanding
- Overdue OS
- SCH-Overdue

If Normal is selected, the balance on which interest has to be applied will be the Expected Balance (assuming that all the scheduled repayments, defined for the contract, are made on time). An example of this category is the application of interest on the principal of a loan.

If Overdue is selected, the balance on which interest has to be applied will be the amount that is outstanding, based on the repayment schedule defined for the contract. An example of this category is the application of penalty interest, on the principal or interest, when a repayment has not been made as per the schedule.

If Outstanding is selected with the amount category as principal, the interest is calculated on the balance of the total principal outstanding amount.

If Overdue OS is selected with the amount category as principal, the interest is calculated on the principal overdue outstanding.

If SCH-Overdue is selected, then the basis amount refers to amount outstanding on a particular schedule due date. If you select the 'Basis Amount Tag' as 'SCH\_AMT\_OS', then system defaults the 'Amount Category' as 'SCH-Overdue' and disables this field.

Select the applicable category using the drop down list. The system defaults to Normal.

#### **Specifying the penalty start day**

Oracle FLEXCUBE calculates the penalty in case the loan payment is not made on the principal schedule date. However, if the payment date falls on a holiday, the penalty can be calculated depending on the start date that you specify in this screen:

If you have specified that penalty start date basis as the **due date**, the penalty will be calculated from the due date of payment even if it falls on a holiday.

If you have specified that the penalty start basis be **next working day**, the penalty will be calculated from the working day following the holiday. Thus the system will waive the penalty for the holiday (s).

#### **Example**

Assume a loan principal payment schedule falls on 11th October 2003, which is maintained as a holiday in Oracle FLEXCUBE.

In addition, there is a deficit of funds in the customer's account for making the payment.

If you have selected the due date option, Oracle FLEXCUBE will calculate the penalty from 11th October 2003.

If you have selected the next working day option, the system will calculate the penalty from 13th October 2003 and will waive the penalty for 11th and 12th October.

#### **Opting to Accrue Interest**

You can choose to accrue the interests due on a contract. To accrue the interest payable on a contract, choose the 'Accrual Required' option.

The accrual details that you define for an interest class will default to all products with which you associate the class. When maintaining interest accrual details for a product, you can change these default details. Contracts maintained under a product will acquire the accrual details defined for the product. However, you can define unique accrual details for a contract.

## **Specifying Rate Details**

### **Rate Type**

The interests paid on contracts can be at a Fixed Rate, or on the basis of a Floating Rate. If you indicate that interests should be calculated on the basis of a Floating Rate, you must specify the 'Periodic' Floating Rate Type.

For all contracts maintained under products, associated with a class, the interest will be by default calculated using the specified Rate type.

If you select the 'Basis Amount Tag' as 'SCH\_AMT\_OS', then system defaults the 'Rate Type' as 'Special' and disables this field.

### **Special Rate Type**

Select the special rate type from the adjoining drop-down list. This list displays the following values:

- Fixed Rate
- Flat Amount

This field is enabled only if the 'Special Penalty Component' box is checked. By default, system displays the value of 'Special Rate Type' as 'Fixed Rate'.

### **Indicating the Fixed Rate Type**

If the rate type is 'Fixed', you have to indicate whether the rate would be entered by the user or needs to be picked up from the rate maintenance table. The following options are available:

- User Input (U) – This option may be used if you want the user to specify the rate of interest applicable on the contract
- Standard (S) – If you opt for this option, the system will pick-up the rate from the Standard Rate Maintenance screen. This rate will be a combination of the Standard Rate, Amount-Slab-Wise Spread and Tenor-wise Spread. However, you can change this rate at the contract level
- For contracts involving fixed rate interest components, your bank may require choosing the applicable rate from historical floating rates for a floating rate code that has been maintained for a treasury source. For such requirements, select the TREASURY option in the Fixed Rate Type field. This option is applicable only for interest classes that you define for the Loans and Money Market modules.

When you enter a fixed rate loan contract or Money Market deal which involves an interest component class for which the TREASURY Fixed Rate Type option has been indicated, the historic floating rates maintained for the default floating rate treasury designated for your branch, are available for choosing.

### **Specifying the method for Interest Computation**

You need to specify the method to be used for computation of interest. The available options are:

- Simple - indicates that the interest would be computed using the Simple Interest formula
- Compound - indicates that the interest would be compounded

### **Indicating whether compounding of interest on holidays is required**

You can opt to compound interest on holidays. Select the 'Compounding on Holidays' option to indicate the same.

An example to show compounded interest calculation is given under the section titled 'Defining interest details'.

### **Special Penalty Comp**

System automatically checks this box if you select the 'Basis Amount Tag' as 'SCH\_AMT\_OS' and you cannot modify it.

### **Specifying the Default Fixed Rate Code**

If you opt for 'Standard' rate type, you have to select rate code based on which rate pick-up would be done.

All the rate codes maintained through the 'Standard rate code maintenance' screen will be available for selection in the option-list provided. The Standard rates maintained (in the Standard Rate Maintenance screen) for the selected rate code would be applicable on all products associated with the Interest class being maintained.

### **Specifying the Prepayment Penalty Rate Code**

Likewise, select the rate code based on which the system will pick-up the prepayment penalty rate for all contracts under the product. Whenever a prepayment is processed, the prepayment penalty rate maintained for the selected rate code will be applied on all the contracts associated with this interest class.

### **Choosing the Default Floating Rate Code**

Interest payable on contracts would be calculated at specific rates. When building an interest component, you have to specify the rate at which the interest should be computed. When associating a rate code (that you have maintained in the Rate Codes Maintenance screen) with the interest component that you are building, the rates corresponding to the code will be used to compute interest.

The details defined for an interest class will default to all products with which the class is associated. When maintaining interest details for a product, you can change this default information. Contracts maintained under a product will acquire the interest details defined for the contract product. However, you can define unique interest details specific to a contract.

When maintaining a contract, you can choose to waive the rate code altogether or amend the properties of the code to suit the security.

If you allow amendment of a rate code, you can specify if you would like to allow rate code amendment *after* the association event.

You can also allow the amendment of the rate value (corresponding to a rate code).

### **The Default Tenor**

Each rate code is associated with a tenor. For instance you have a Rate Code 'LIBOR'. You can link any number of tenor codes to the same rate code.

| Tenor Code | Description |
|------------|-------------|
|------------|-------------|

| Tenor Code | Description     |
|------------|-----------------|
| 1W         | One week rate   |
| 2W         | Two week rate   |
| 2M         | Two months rate |
| 6M         | Six months rate |
| 1Y         | One year rate   |

When building an interest component, you can specify a Tenor Code that you would like to associate, with the Floating Interest Rate Code. Interests for contracts (maintained under a product with which you associate the class) will be calculated using the rate corresponding to the Rate Code and the Tenor Code.

#### **Indicating whether interest should be applied on premature withdrawal**

You can opt to waive Interest on premature withdrawal of the deposit. Select the 'No interest on premature withdrawal' option to indicate that interest needs to be waived if premature withdrawal (partial or full) is done for the deposit.

#### **Reapplying interest rate on prepayment**

If the 'Fixed' rate type is 'Standard', you can opt to reapply interest when a prepayment is made.

You can reapply interest on one of the following:

- On Prepaid Amount – Select this option to indicate that interest on the prepaid amount would be recalculated during prepayment based on the rate applicable for the current tenor of the deposit.
- On Outstanding Balance – This option will indicate that interest will be recalculated on the outstanding balance during prepayment based on the rate applicable for the current tenor of the deposit.

#### **Enabling the Consider as Discount option**

While defining an interest class for either the loans or the bills module, you can indicate whether the interest component is to be considered for discount accrual on a constant yield basis and whether accrual of interest is required.

If you select the 'Consider as Discount' option the interest received against the component is used in the computation of the constant yield and subsequently amortized over the tenor of the associated contract. By checking this option, you can also indicate whether the component should be included in the Internal Rate of Return computation.

If you select the 'Accrual Required' option, the interest is accrued depending on the accrual preferences defined for the product.

If neither option is selected, the interest is not accrued, but is recognized as income on interest liquidation.

The 'Consider as Discount' option is not available if the amount category is Penalty.



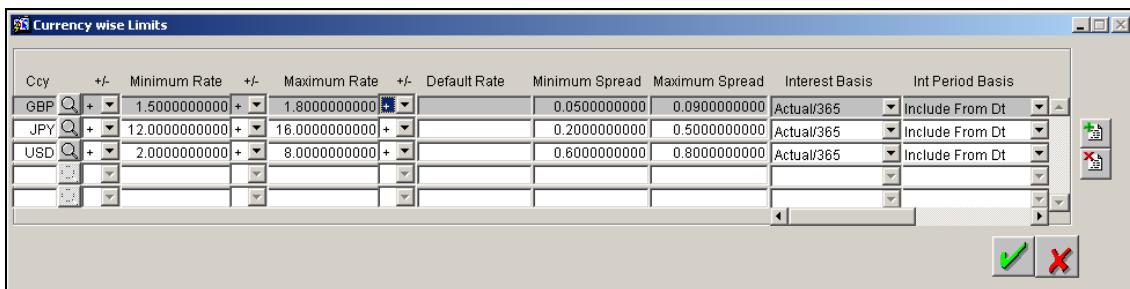
Note the following:

- For bearing contracts, if the option 'Consider as Discount' is checked then the option 'Accrual Required' also has to be checked. If the option 'Accrual Required' is not checked, the option 'Consider as Discount' is disabled.
- For Discounted contracts, you can select either one of the options or both together. If the options 'Accrual Required' and 'Consider as Discount' are selected then discounted interest is considered for IRR calculation. If the option 'Accrual Required' is not selected and 'Consider as Discount' is selected, then discounted interest is considered a part of the total discount to be accrued.
- The 'Consider as Discount' option is not available if the amount category is Penalty.

### **3.1.1 Specifying Currency-wise Limits for Interest Rate Application**

When you define an interest class, you can specify the limits applicable for the interest component, and the rules according to which interest amounts in respect of the interest

component must be rounded. To define the rules, click the  button in the Interest tab in the Interest Class Definition screen. The 'Currency-wise Limits' screen is displayed.



In this screen, the following limits and rounding rules can be defined for each currency and for each tenor:

- For fixed rate components, the default rate to be applied in respect of the interest component
- The allowable limits for the interest rates in respect of the component. You can define the minimum and maximum applicable interest rates. If the interest rate falls below the minimum, the minimum rate is applicable; similarly, if the interest rate exceeds the maximum, the maximum rate is applicable
- For floating rate components, the allowable limits for the spread that can be applied on the floating rate. If the spread falls below the minimum, the minimum spread is applicable; similarly, if the spread exceeds the maximum, the maximum spread is applicable
- The basis on which interest is calculated for each currency, for which the limits are applicable
- How the interest amounts in respect of the interest component in the specified currency are to be rounded – truncated, rounded up, rounded down or rounded near
- If truncation is opted for, the number of digits after the decimal place, to which interest amounts in respect of the interest component in the specified currency must be truncated. The number of digits specified for truncation cannot exceed the allowed decimal places for the specified currency. If not specified, the number of decimals indicated in the Currency Definition for the specified currency is picked up by the System

- For the Round Up, Round Down and Round Near options, the rounding unit which is the lowest possible measure in which the interest amounts, in respect of the interest component in the specified currency, can be considered. This value cannot be less than the rounding unit for the specified currency in the Currency Definition. If not specified, the rounding unit indicated in the Currency Definition for the specified currency is picked up by the System



Note the following:

- When generic interest limits are being defined for all currencies in the Currency-wise Limits screen (that is, the ALL option has been selected in the Currency field), the fields relating to rounding rules are not available for definition
- The currency rounding rules can be defined only for classes that would be maintained for Loans and Money Market modules

### Specifying the interest period basis

You can indicate how the system must consider the tenor basis upon which interest is computed over a schedule or interest period, in respect of the interest component.

You can specify the interest period basis for each currency in the Currency-wise Limits screen, which you can invoke by clicking on the Rates button in the Interest tab in the Interest Class Definition screen.

You can choose any of the following options:

#### Including the From Date

For all schedules, the period considered for interest calculation would include the start date and exclude the end date. Therefore, the value date of the loan is considered for interest calculation and the maturity date is excluded.

#### Including the To Date

For all schedules, the period considered for interest calculation would exclude the start date and include the end date. Therefore, the value date of the loan is excluded, but the maturity date is included for interest calculation.

#### Including both From and To Dates

The period considered for interest calculation would include both the value date and the maturity date. This would mean:

- For the first schedule, it would include the Value Date. Interest would be calculated for the Value Date
- For the last schedule, it would include the Maturity Date. Interest would be calculated for the Maturity Date

#### Excluding both From and To Dates

The period considered for interest calculation would exclude both the value date and the maturity date. This would mean:

- For the first schedule, it would exclude the Value Date. No interest would be calculated for the Value Date
- For the last schedule, it would exclude the end date. No interest would be calculated for the Maturity Date



This feature is only available for classes that would be maintained for Loans and Money Market modules.

#### **Maintaining positive or negative values for interest limits and the default rate**

When you maintain currency-wise interest rate limits for the interest class, you can indicate the applicable sign for the interest limits values as well as for the default rate value. If required, you can assign the negative sign, indicating a negative range for the limits, or a negative default rate.

In the case of Default Rate, the assigned sign is defaulted along with the rate specified, for contracts that use a product associated with this class.

Click on the Rates button in the Interest tab in the Interest Class Definition screen, to invoke the Currency-wise Limits screen.



This feature is only available for classes that would be maintained for the Money Market module.

### **3.1.2 Processing CPR (Conditional Prepayment Rate) Loans**

CPR (Conditional Prepayment Rate) Loans are referred to the loans which have the interest on Principal Outstanding fixed till maturity and floating rate thereafter.

Oracle FLEXCUBE allows you to create a secondary interest component which can be applicable only after the maturity date of a loan on the total principal outstanding. While defining the interest class definition for the secondary interest component, you should specify the amount tag as 'Principal' and the amount category as 'Overdue OS' and the rate type as 'Floating' which gets defaulted to the 'Interest Definition' screen also.



Interest computation on Outstanding Principal balance is applicable for Normal-Bearing type of loans.

### **3.1.3 Calculating Loan Interest Accrual on Principal Outstanding**

When you select amount category as 'Outstanding' for calculating the interest the interest is calculated on the balance of the total principal outstanding amount. Contract online screen accepts the schedules for Interest which is defined for this amount category.

The accrual logic will remain the same and to arrive at the daily average amount the total interest is divided by the number of days. However the computation of interest schedules will change based on the above setup.

#### **Example:**

A Contract is booked with the following details

|                         |                 |
|-------------------------|-----------------|
| <b>Principal Amount</b> | <b>12000000</b> |
| Interest Rate           | 10%             |
| Value Date              | 28-Sep-05       |
| Maturity Date           | 28-May-06       |

The amount category is maintained as "Expected" and the schedules of Principal and Interest are defined as monthly. The schedules will get defined in the following manner

| Principal | Interest Rate | Start Date | End Date  | No of Days | Principal Schedule | Interest Amount | Daily Avg Amount |
|-----------|---------------|------------|-----------|------------|--------------------|-----------------|------------------|
| 12000000  | 10%           | 28-Sep-05  | 28-Oct-05 | 30         | 2000000            | 100000          | 3333.33333       |
| 10000000  | 10%           | 28-Oct-05  | 28-Nov-05 | 31         | 2000000            | 86111.1111      | 2777.77778       |
| 8000000   | 10%           | 28-Nov-05  | 28-Dec-05 | 30         | 2000000            | 66666.6667      | 2222.22222       |
| 6000000   | 10%           | 28-Dec-05  | 28-Jan-06 | 31         | 2000000            | 51666.6667      | 1666.66667       |
| 4000000   | 10%           | 28-Jan-06  | 28-Feb-06 | 31         | 2000000            | 34444.4444      | 1111.11111       |
| 2000000   | 10%           | 28-Feb-06  | 28-May-06 | 89         | 2000000            | 49444.4444      | 555.555556       |

However the schedules will get defined in the following manner for the contract with same details as above, if the amount category is maintained as "Outstanding"

| Principal O/s | Interest Rate | Start Date | End Date  | No of Days | Principal Schedule | Interest Amount | Daily Avg Amount |
|---------------|---------------|------------|-----------|------------|--------------------|-----------------|------------------|
| 12000000      | 10%           | 28-Sep-05  | 28-Oct-05 | 30         | 2000000            | 100000          | 3333.33333       |
| 12000000      | 10%           | 28-Oct-05  | 28-Nov-05 | 31         | 2000000            | 103333.333      | 3333.33333       |
| 12000000      | 10%           | 28-Nov-05  | 28-Dec-05 | 30         | 2000000            | 100000          | 3333.33333       |
| 12000000      | 10%           | 28-Dec-05  | 28-Jan-06 | 31         | 2000000            | 103333.333      | 3333.33333       |
| 12000000      | 10%           | 28-Jan-06  | 28-Feb-06 | 31         | 2000000            | 103333.333      | 3333.33333       |
| 12000000      | 10%           | 28-Feb-06  | 28-May-06 | 89         | 2000000            | 296666.667      | 3333.33333       |

Here even though the schedules are defined for monthly payment schedules of Principal, the schedules will be computed on the Loan Principal Outstanding since the Principal amount is not 'expected' to be paid at the time of Loan Initiation.

Now assuming that the payment of principal which was due on 28-Oct-2005 was paid along with the interest due on the scheduled due date, then the schedules will be redefined as under.

| Principal O/s | Interest Rate | Start Date | End Date  | No of Days | Principal Schedule | Interest Amount | Daily Avg Amount |
|---------------|---------------|------------|-----------|------------|--------------------|-----------------|------------------|
| 12000000      | 10%           | 28-Sep-05  | 28-Oct-05 | 30         | <b>2000000</b>     | 100000          | 3333.33333       |
| 10000000      | 10%           | 28-Oct-05  | 28-Nov-05 | 31         | 2000000            | 86111.1111      | 2777.77778       |
| 10000000      | 10%           | 28-Nov-05  | 28-Dec-05 | 30         | 2000000            | 83333.3333      | 2777.77778       |
| 10000000      | 10%           | 28-Dec-05  | 28-Jan-06 | 31         | 2000000            | 86111.1111      | 2777.77778       |
| 10000000      | 10%           | 28-Jan-06  | 28-Feb-06 | 31         | 2000000            | 86111.1111      | 2777.77778       |

| Principal O/s | Interest Rate | Start Date | End Date  | No of Days | Principal Schedule | Interest Amount | Daily Avg Amount |
|---------------|---------------|------------|-----------|------------|--------------------|-----------------|------------------|
| 10000000      | 10%           | 28-Feb-06  | 28-May-06 | 89         | 2000000            | 247222.222      | 2777.77778       |

The accrual amount on the EOD of 28-Oct-2005 with the next working day as 29-Oct-2005 will be 2777.78



Even a prepayment of Principal will change the accrual amount.

**Example:**

If a contract has been booked with the following details,

|                  |           |
|------------------|-----------|
| Principal Amount | 12000000  |
| Interest Rate    | 10%       |
| Value Date       | 28-Sep-05 |
| Maturity Date    | 28-May-06 |

Assuming that all the repayment schedules except the last two schedules have been paid, the schedules will be

| Principal O/s | Interest Rate | Start Date | End Date  | No of Days | Principal Schedule | Interest Amount | Daily Avg Amount |
|---------------|---------------|------------|-----------|------------|--------------------|-----------------|------------------|
| 12000000      | 10%           | 28-Sep-05  | 28-Oct-05 | 30         | 2000000            | 100000          | 3333.33333       |
| 10000000      | 10%           | 28-Oct-05  | 28-Nov-05 | 31         | 2000000            | 86111.1111      | 2777.77778       |
| 8000000       | 10%           | 28-Nov-05  | 28-Dec-05 | 30         | 2000000            | 66666.6667      | 2222.22222       |
| 6000000       | 10%           | 28-Dec-05  | 28-Jan-06 | 31         | 2000000            | 51666.6667      | 1666.66667       |
| 4000000       | 10%           | 28-Jan-06  | 28-Feb-06 | 31         | 2000000            | 34444.4444      | 1111.11111       |
| 4000000       | 10%           | 28-Feb-06  | 28-May-06 | 89         | 2000000            | 98888.8889      | 1111.11111       |

The highlighted schedules are unpaid. On the EOD of 28-May-2006, the Main Interest Component Accrual will stop and the Floating Interest component will start computing the interest based on the maintenance, with the basis amount as 4000000.