

SHM Application Note

Using XLeMs for Tenant Billing

Revision 03 JJM 23/03/2009

NB. This document assumes you have a copy of the XLeMs Manual, and are reasonably familiar with the operation of XLeMs. It also applies to version 1.10 and later versions of XLeMs.

1. Introduction

XLeMs is Energy Monitoring Software that collects energy consumption data from SHM dataloggers and allows it to be presented in Microsoft Excel format.

XLeMs contains special features that make it easy to create simple energy bills manually or semi-automatically. There are two methods :-

1. Simple Method. Bills are produced for 1 calendar month (for example) and bills for tenants that move in or out during the month must be done manually.
2. Advanced Method. Each Tenant (Customer) can have 3 dates specified (Move in, Move out and Last Billed). These dates can then override the nominal start and end dates of the bill, and produce correct bills when tenants move in or out.

We will assume that your XLeMs software has been set up and is collecting data regularly from your SHM dataloggers. To set up your billing system, you will need to do the following :-

1. Enter details (name, address etc.) of your Tenants into XLeMs. In XLeMs, Tenants are referred to as Customers.
2. Associate each meter (in XLeMs, meter reading data is stored in a Channel) to the appropriate Tenant by linking each Channel to the corresponding Customer.
3. Create XLeMs Templates to generate bills for your Tenants. You can modify the sample billing Templates supplied with XLeMs or create your own. Each Template can generate bills for more than one Tenant. However having one Template that generates all bills may be a bit unwieldy, and it is often better to split the bills up into several Templates.
4. Generate sample bills to ensure that all the data is correct.
5. You can then generate bills manually as required, or schedule them automatically on predefined dates using the XLeMs Scheduler. In either case, you should check the bills to make sure they are OK before sending them out. If using the Scheduler, you can automatically print out the bills if you wish.
6. For the Advanced Method, you will need to perform some "housekeeping" functions. This includes setting the "Last Bill Date" after a set of bills has been sent out and handling special cases such as when a Tenant moves out or in.

SHM will carry out steps 1 to 4 for you if this was part of the original system order.

Ideally, the XLeMs system should be commissioned before any tenants move in. That way, you can produce bills straight away. However if this is not the case, you will need to produce bills using manual readings until XLeMs has collected data for a full billing period.

2. Operation

This section describes how to use XLeMs for billing once the system and Templates have been set up as described in section 3.

2.1 Billing Overview

XLeMs implements a special type of Report called a Billing Data report. This looks at meter readings in the readings database and extracts meter readings for the Start Date and End

Date of the billing period. You can then calculate the energy used by subtracting the Start Reading from the End Reading.

Billing Reports are normally run with the End Date set to the Current Billing Point Date and the Start Date set to the Last Billing Point Date. For monthly billing, these would be the 1st of the month at 00:00 for consecutive months.

For the Simple Method of billing, the bill will be calculated between these two dates.

2.1.1 Advanced Method

For the Advanced Method however, the Start Date and End Date of the billing data are not necessarily the same as the Start Date and End Date of the Report. The Tenant data in the XLeMs configuration database contains three dates for each Tenant that can (and do) override the Report dates. These are :-

1. Last Billing Date Date for which Tenant has been billed up to
2. Move In Date Date Tenant moved in
3. Move Out Date Date Tenant moved out

If any of the above are blank, then they are ignored.

The Last Billing Date overrides the Report Start Date. This produces a bill between the Tenant's last bill date and the current billing point.

If the Tenant has moved out between the Start Date and End Date of the Report, then the Move Out Date replaces the End Date. This produces a bill from the last billing point to the date when the Tenant moved out.

If the Tenant has moved in between the Start Date and End Date of the Report (the Last Billing Date should be Blank as the Tenant has never been billed before), then the Move In Date overrides the Start Date. This produces a bill from the date the Tenant moved in to the current billing point.

2.2 The Billing Run

This is the process of using XLeMs to generate a complete set of billing reports for all Tenants and printing out the bills.

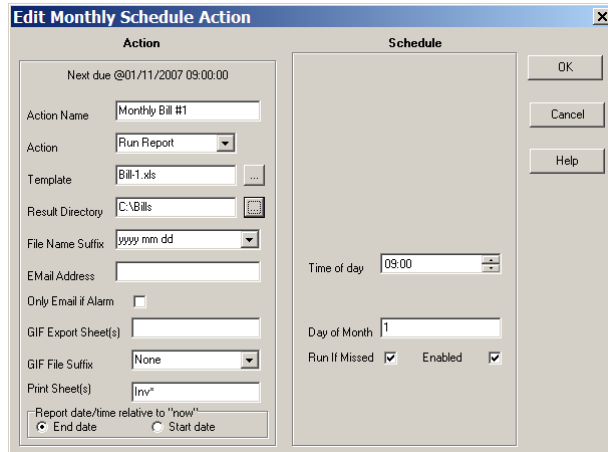
You will perform a Billing Run at regular intervals, typically monthly or every 3 months. This can be done in two ways; automatically using the XLeMs Scheduler or manually.

2.2.1 Scheduler Method

This method automatically runs your Billing Reports and can optionally print out the bills.

You must first program the XLeMs Scheduler to run the Billing Report or Reports at the required times. The Reports must be run on the Billing Point Date at a time after the Scheduler has collected all the Meter reading data (it will normally be programmed to collect the data every day in the early morning).

If your Billing Point Dates are monthly, you can program a Monthly Schedule on the 1st of the month (say). If your dates are quarterly, then you will need to program 4 Yearly Schedules on the quarter days. The setup for a scheduled Billing Report would look something like this :-



This is a Monthly schedule, run on the 1st of every month at 09:00. Note that the **Print Sheet(s)** box is set to **Inv***. Since the Billing worksheets in this particular Report are named Inv001, Inv002, Inv003 etc., this will print out all these worksheets on the printer. Refer to the XLeMs manual for setting up the default printer.

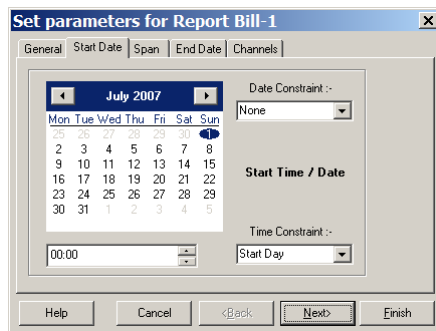
You should always manually check any bills generated by XLeMs to ensure the figures are present and correct before sending them out.

For the Advanced Method, once the bills have been sent out, you must then set the Last Billing Date for each Tenant (see section 0). The Billing Run is then complete.

2.2.2 Manual Method

The Manual Method involves using the XLeMs Control Centre to run all the required reports. You would normally do this shortly after the required Billing Point Date.

The menu command **Report | Run** will produce a list of XLeMs Templates. Select one of the Billing Templates. You will then be prompted to enter the Start and End dates for the Report.



You should set the Start Date to the date of the last Bill Run. That way the new bill will carry on from the old one. Actually, as explained in section 2.1, the bills generated will normally pick up their "Last Bill Date" from the Customer (Tenant) data and over-ride this setting.

You should set the End Date to your Billing Point Date. It is important that the XLeMs Scheduler has collected meter reading data for all the Tenants for this date.

You then click the [Finish] button and save the resulting Report file. When prompted, open the Report in Excel.

You should then check each Bill (Invoice) sheet in turn to see that it has valid data. If you are satisfied, you can print it out.

For the Advanced Method, once the bills have been sent out, you must then set the Last Billing Date for each Tenant (see section 0). The Billing Run is then complete.

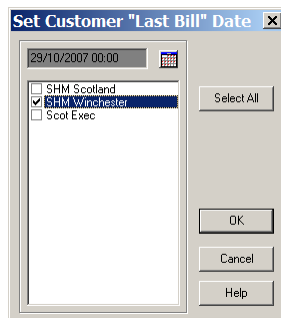
2.3 Advanced Method Operations

These operations only apply if you are using the Advanced Method.

2.3.1 Setting Last Billing Date

Once you are satisfied that all the bills have been correctly produced, you must set the Last Billing Date for all Tenants. This operation is done as a separate manual operation to allow you to spot any errors or omissions and correct them, doing a second Billing Run if necessary.

From the XLeMs Control Centre use the menu command **Tools | Set Billing Date**



Click the Calendar button to set the date to your latest Billing Point Date.

Put a tick beside those Customers (Tenants) that you want to set the Last Bill Date for, or click the [Select All] button to do them all. You might not want to do [Select All] if there are entries for Tenants that have moved out or dummy entries for unoccupied properties.

Click [OK] to update the Last Bill dates. The Billing Run is now complete.

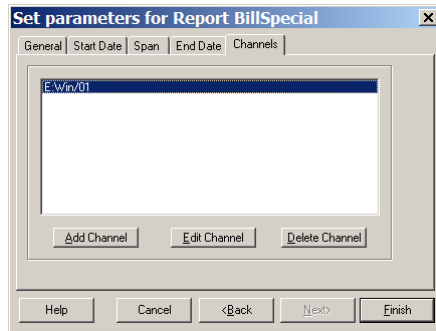
2.3.2 Tenant Moving Out

When a tenant moves out, the first thing to do is set the "Move Out Date". Use the menu command **Browse | Customers** and select the appropriate Customer (Tenant) from the list. Click the [Edit Customer] button to bring up the Edit form. Click the Move Out Date calendar button and set the date :-



Next, you will want to produce a final bill for the Tenant. You must of course do this after the Tenant has moved out, and after XLeMs has collected the final meter readings.

Use the menu command **Report | Run** and select the special billing Template that produces a bill for a single Tenant (see section 3.4.4). Set the Start Date to some time in the past (the system will automatically override the date you enter with the last billing date for the Customer (Tenant), set the End Date to "now" and finally click the "Channels" tab :-



Edit the Channel (or Channels) to correspond to those belonging to the Tenant that is moving out. Click [Finish]. Save the Report and open it in Excel. Print out the bill.

If the bill looks OK, set the Last Billing Date for this Tenant only (see section 0).

You should not delete the Tenant from the database at this stage. Instead, change the Customer Reference to show the Tenant has moved out, for example by prefixing the Customer Reference with the letter **X**. Use the menu command **Browse | Customers** and edit the **CustRef** field in the grid.

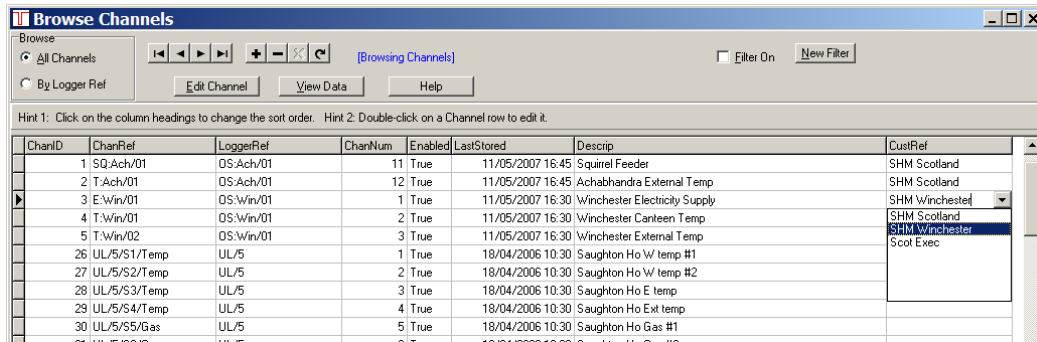
It is a good idea to have a dummy Tenant in the database whose **CustRef** is **Unoccupied**. You can then assign all the Channels (Meters) that were assigned to the Tenant that has moved out to **Unoccupied** to prevent any further bills being generated for the former Tenant. Of course if a new Tenant is moving in immediately, then you can do the Tenant Moving In procedure immediately (see next section).

2.3.3 Tenant Moving In

When a Tenant moves in, you will need to create a new Customer record. Use the menu command **New | Customer** and fill in the details.

Choose a memorable unique **CustRef**. Click the Move In Date calendar button and set the Move In Date. Click [Save Edits].

Now you must assign all Channels (Meters) that are to be billed to the new Tenant to this new Customer. Use the menu command **Browse | Channels**. Identify the relevant Channels and modify the **CustRef** field by clicking in it and selecting from the drop-down list :-



The bill for the new Tenant will be generated on the next Billing Run, and will start from the Move In Date.

2.4 Taking Over from a Manual System

If you have installed XLeMs to replace an existing manual meter reading and billing system, then you need to manage the changeover between the two systems.

To do this, you will need to have the meter readings stored in the SHM dataloggers synchronized with the Tenant's meter readings. You should not have to worry about this, as SHM would normally do this as part of their commissioning process.

When you first do an XLeMs billing run, the Reports will have data for the current billing point date, but will not have data for the previous (manually read) billing point date. For example :-

Chan ID		3	
Chan Ref		E:Win/01	
Description		Winchester Electricity Supply	
Chan Heading			
Cust Ref		SHM Winchester	
Units		kWh	
Reading Multipli		0.1	
Reading Offset		0	
Chart Type		266	
Contact Name		Peter Hutt	
Company		SHM Communications Ltd	
Address 1		8 Chesil Street	
Address 2			
Town/City		Winchester	
Postcode		SO23 0HU	
Phone		01962 865142	
FAX		01962 862451	
Email		prhutt@shmcomms.co.uk	
Invoice No.		11	
Date	Time	Date/Time	
25/07/2007	0	25/07/2007	
25/10/2007	0	25/10/2007	
		25/10/2007	
		25/10/2007	
		16640	

This is part of the **Data1** worksheet; the cells with missing data are highlighted in **Red**. These correspond to the meter readings for the last manually-generated bill. They are blank because the SHM dataloggers and XLeMs software were not installed and running at this time.

You can now enter the meter reading and date of the last manual reading in the **Data1** worksheet :-

		Chan ID		3
		Chan Ref	E:Win/01	
		Description	Winchester Electricity Supply	
		Chan Heading		
		Cust Ref	SHM Winchester	
		Units	kWh	
		Reading Multipli	0.1	
		Reading Offset	0	
		Chart Type	266	
		Contact Name	Peter Hutt	
		Company	SHM Communications Ltd	
		Address 1	8 Chesil Street	
		Address 2		
		Town/City	Winchester	
		Postcode	SO23 0HU	
		Phone	01962 865142	
		FAX	01962 862451	
		Email	prhutt@shmcomms.co.uk	
		Invoice No.	11	
Date	Time	Date/Time		
25/07/2007	0	25/07/2007	25/07/2007	
25/10/2007	0	25/10/2007	24/07/2007	
			15795	
			25/10/2007	
			25/10/2007	
			16640	

The cell ringed in Red (the cell name is XLM001Rdg1D) now has the date of the last manual reading and the cell ringed in Blue (the cell name is XLM001Rdg1) not has the last manual reading.

These manually-added figures will now show in the worksheet that produces the bill :-

Reading last time	Reading this time
Meter Number(s)	
24 Jul 2007	25 Oct 2007
15795.00	16640.00

This shows the part of the **Inv001** worksheet with meter readings and dates.

You can now print out the bills, which will have a mixture of manually-collected meter readings and automatically-collected meter readings.

Once the bills have been sent out, you must then set the Last Billing Date for each Tenant (see section 0). The Billing Run is then complete.

3. Setting Up

SHM may do this for you if this was part of the original system order.

3.1 Tenant Details

Use the **New | Customer** command in XLeMs to create each Customer or Tenant.

You need to think up a suitable unique alphanumeric "Customer Reference" for each – you should choose something that logically links to the flat or unit being let.

When setting up the address, you can use the "Company" field as an additional address line for non-commercial tenants – "Company" is just a label and has no special meaning to XLeMs.

Do not set any of the three dates at the bottom of the form at this stage.

3.2 Meter Association

It is easiest to use the XLeMs **Browse | Channels** command to associate Customers (Tenants) with Channels (Meters).

ChanID	ChanRef	LoggerRef	ChanNum	Enabled	LastStored	Descrpt	CustRef
1	SQ:Ach/01	OS:Ach/01	11	True	11/05/2007 16:45	Squirrel Feeder	SHM Scotland
2	T:Ach/01	OS:Ach/01	12	True	11/05/2007 16:45	Achabhandra External Temp	SHM Scotland
3	E:Win/01	OS:Win/01	1	True	11/05/2007 16:30	Winchester Electricity Supply	SHM Winchester
4	T:Win/01	OS:Win/01	2	True	11/05/2007 16:30	Winchester Canteen Temp	SHM Scotland
5	T:Win/02	OS:Win/01	3	True	11/05/2007 16:30	Winchester External Temp	SHM Winchester
26	UL/5/S1/Temp	UL/5	1	True	18/04/2006 10:30	Saughton Ho W temp #1	Scot Exec
27	UL/5/S2/Temp	UL/5	2	True	18/04/2006 10:30	Saughton Ho W temp #2	
28	UL/5/S3/Temp	UL/5	3	True	18/04/2006 10:30	Saughton Ho E temp	
29	UL/5/S4/Temp	UL/5	4	True	18/04/2006 10:30	Saughton Ho Ext temp	
30	UL/5/S5/Gas	UL/5	5	True	18/04/2006 10:30	Saughton Ho Gas #1	
31	UL/5/S6/Gas	UL/5	6	True	18/04/2006 10:30	Saughton Ho Gas #2	
32	UL/5/S7/Gas	UL/5	7	True	18/04/2006 10:30	Saughton Ho Gas #3	

By clicking in the **CustRef** column for a Channel, you can select the appropriate Customer from the drop-down list.

A Tenant will typically be associated with more than one meter, eg. a domestic tenant with electricity, water and gas, or a commercial tenant occupying more than one floor.

3.3 Creating Templates

You need to create your own XLeMs Billing Templates so that these can be used to produce Reports containing bills which can then be printed out. You will customize your Templates to produce bills for your Tenants with your desired layout.

The best way to start is to use the XLeMs command **Template | New from Existing** and select an example template as a starting point. These have customisable fields that allow you to specify cost per unit and text strings. There are four to choose from :-

XampBill1.xls

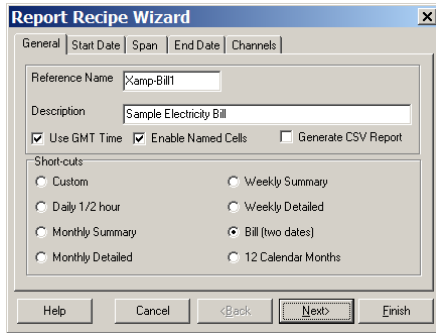
This is an Advanced Method template that has a single Invoice Worksheet **Inv001** containing data from the first Channel in the Template. When a Report is run, XLeMs will replicate this sheet (as **Inv002** etc.) for each Channel in the Template using the appropriate data. It initially contains 8 Channels, but you can add or delete Channels, and Invoice Worksheets will automatically produced for however many Channels there are.

XampBill2.xls

This is an Advanced Method template that has 10 Channels defined, and 10 Invoice Worksheets (**Inv001** to **Inv010**). You can add extra Channels, but you will have to add extra Invoice Worksheets manually by copying an existing sheet and changing the data references using search-and-replace.

Xamp-BillSimple1.xls This is a Simple Method Template similar to **Xamp-Bill1.xls**.

Xamp-BillSimple2.xls This is a Simple Method Template similar to **Xamp-Bill2.xls**.



You **must** change the Reference Name to one of your own (eg. Bill-1) as this will become the name of the new Template.

Ensure that **Enable Named Cells** and **Bill (two dates)** are selected. Click [Next].



You will need to set the start date to one for which XLeMs has meter reading data stored. If the system has recently been installed, then this will have to be a recent date. Otherwise you might set it to a date 1 month or 3 months ago.

Note that the Time Constraint is set to **Start Day**. This is usually the best choice for a billing template. Click [Next].

Span: Leave these settings alone. Click [Next].

Set the End Date to "today". The Time Constraint of **Start Day** will ensure that the time is 00:00. This assumes you have collected data from all the loggers at some time today (in which case today's readings for 00:00 will be in the database). Click [Next].

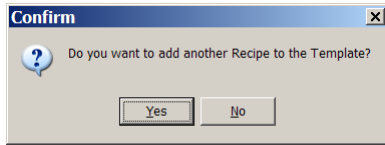
When you see this form, the Channel References (SQ:Ach/01, T:Ach/01, E:Win/01 etc) will be replaced by Channel References from your own system. When modifying the sample Templates you will need to edit each channel to ensure that it is valid on your system.

Select the channel or Channels (Meters) you wish to include in the bill template. Select an entry and then click the [Edit Channel] button.

Select a **Channel Ref** from the drop-down list. The **Reading Type** must be **Billing Data** for the Advanced Method or **Billing Data 2** for the Simple Method. If you want a unique number generated for each Tenant's bill, you should check the **Generate Invoice Number** box on one of the Channels for each Tenant.

It is best to start by working on a billing Template for a single Tenant and getting it right before extending it to other Tenants.

Click the [Finish] button on the Report Recipe Wizard form. You will then be asked :-



Click [No]. Save the new Template when prompted, and open it in Excel.

3.4 Customizing the Bill Template

Once you have created a Template as described in section 3.3 you can then modify it to present the data in the form you want it.

Assuming you have the Template opened in Excel, click on the [Data1] tab. You should see something like this :-

Chan ID		3	159	160
Chan Ref	E:Win/01	W:Win/01	G:Win/01	
Description	Winchester E	Winchester W	Winchester Gas Supply	
Chan Heading				
Cust Ref	SHM Winche	SHM Winche	SHM Winchester	
Units	kWh	litres	litres	
Reading Multipl	0.1	1	10	
Reading Offset	0	0	0	
Chart Type	266	10	266	
Contact Name	Peter Hutt	Peter Hutt	Peter Hutt	
Company	SHM Commu	SHM Commu	SHM Communications Ltd	
Address 1	8 Chesil Stre	8 Chesil Stre	8 Chesil Street	
Address 2				
Town/City	Winchester	Winchester	Winchester	
Postcode	SO23 0HU	SO23 0HU	SO23 0HU	
Phone	01962 86514	01962 86514	01962 86514	
FAX	01962 86245	01962 86245	01962 86245	
Email	prhutt@shmc	prhutt@shmc	prhutt@shmmcomms.co.uk	
Invoice No.	8	8	8	
Date	Time	Date/Time		
23/10/2007	0	23/10/2007	23/10/2007	23/10/2007
25/10/2007	0	25/10/2007	23/10/2007	23/10/2007
			16550.9	1881824
			25/10/2007	25/10/2007
			16640	1882563
				5988020

The cell ringed in Red is the Start Reading for the first Channel (Meter) in the template. The cell ringed in Blue is the End Reading. The corresponding reading dates are in the cells above. If your template has blanks for either the Start or End readings, it means there was no reading in the database for that date & time. You will need to modify the Template and select Start and End dates that **do** have readings in the database.

3.4.1 Energy and VAT Rates

Now click the [Work1] tab. You should see something like this :-

NB. The Yellow cells are used to determine the tariff etc.					
			p/unit		
Elec		10.00 (kWh)	Bill Heading	SHM Energy Ltd	
Gas		0.015359 (litre)	ContactTel	01962 865142	
Water		0.142 (litre)	Date Format	dd mmm yyyy	
			p/day		
Service Chg E		16.24	CustLine1	Valley House	
Service Chg G		5.03	CustLine2	6 Winnall Valley Road	
Service Chg W		0	CustLine3	Winchester, SO23 0LD	
			CustLine4	Telephone 01962 865142	
			CustLine5	Fax 01962 862451	
VAT%		5.00%	CustLine6	www.shmmcomms.co.uk	
VAT no		123 4567 89			
Payment		Please make cheques payable to SHM Energy Ltd.			

It is standard practice in XLeMs to have a "Work" sheet that has various constants, text strings etc. that you then use in the Excel worksheets that present the data. All the Yellow cells have names (eg. the VAT rate cell (showing 5.00%) is named **VatRate**). This means you can refer to them on other sheets using this name, rather than using a cell reference such as **Work1!R[-5]C[1]**.

You should fill in the yellow cells with appropriate figures. For guidance on VAT rates, see section 4.

3.4.2 Invoice Appearance

Now click on the [Inv001] tab to display the first Invoice worksheet. If you select "Print Preview" you should see something like this :-

Customer Reference : SHM Winchester		SHM Energy Ltd	
Peter Hutt SHM Communications Ltd 8 Chesil Street		Valley House 6 Winnall Valley Road Winchester, SO23 0LD Telephone 01962 865142 Fax 01962 862451 www.shmcomms.co.uk	
Winchester SO23 0HU		VAT Reg Number	123 4567 89
		Invoice Number	432
Dear Peter Hutt,			
This is your electricity bill for 01 Jan 2009 until 01 Mar 2009.			
Please pay us £138.83. Thank you.			
Please make cheques payable to SHM Energy Ltd.			
The figures below show how we have calculated your charges.			

Your meter readings

Meter	Last time		This time		Usage	Utility
	Date	Reading	Date	Reading		
E:Win/01	01 Jan 2009	25031.70	01 Mar 2009	26420.00	1388.30 kWh	Electricity

Your electricity bill

Tariff	p / unit	Usage	Cost
Domestic Electricity	10.00	1388.30 kWh	£138.83

Total charges this bill. **£138.83**

For any enquiries, please telephone : **01962 865142**

You can easily use your Excel skills to lay out your bill however you want it.

The sample billing Template **Xamp1-Bill.xls** produces bills for Electricity only. However, if your system collects meter readings for Electricity, Gas and Water, you could easily change this to produce a combined utility bill for each tenant. Similarly for a commercial Tenant occupying 3 floors of a building and billed for electricity only, you would combine the readings from his three meters (assuming each floor is metered separately for electricity) on a single bill.

If you examine the [Inv001] worksheet you will see that it is a mixture of static text and dynamic content. The dynamic content consists of references to cells on other worksheets (Data1 and Work1) and formulae involving cell references to other sheets. It is this dynamic content that picks up meter readings, dates, customer details, pricing information etc. to produce a bill for a particular Tenant.

In all cases, the references to cells on other worksheets are named references. For example references to VAT Rate or pence per unit use the names **VatRate** and **ElecRate** respectively.

The meter readings at the start and end of the period are referred to by their names **XMLM001Rdg1** and **XMLM001Rdg2**. These are references to cells in worksheet [Data1] The cell names in [Data1] all have the prefix **XMLMnnn** where **nnn** corresponds to the appropriate Channel column in [Data1] (001, 002, 003 etc). This corresponds to the order that the Channels appear when you enter them in the Report Recipe Wizard (see section 3.3).

Using named cell references means that it is much easier to generate further invoice worksheets for other tenants (see section 3.4.3).

For a list of cell names in the [Data1] worksheet, refer to the XLeMs manual.

3.4.3 Cloning Invoice Sheets

If you create a Template based on **Xamp-Bill1.xls** or **Xamp-BillSimple1.xls**, then XLeMs will automatically clone sheet **Inv001** for you. For Templates created based on the other two examples, this has to be done manually.

Once you have produced an Invoice Sheet with the desired format and with the correct data for one Tenant, you will want to produce identical Invoice Sheets for other Tenants.

To do this, first use the XLeMs menu command **Template | Modify** to modify your template. Add extra Channels to the template corresponding to the Meters for another Tenant. You can add meters for as many tenants as you think is manageable on one workbook.

Now open the XLeMs template in Excel. Select your Invoice Sheet (conventionally named **Inv001**) and make a copy of it (Right-click & select **Move or Copy...**). Rename the new sheet to something like **Inv002**. You can use any naming convention you like for the Invoice Sheets but it is good practice to make all the names start with the same prefix (eg. **Inv**).

Select the new worksheet and use the Excel command **Edit | Replace** to replace all occurrences of **XLM001** with **XLM002**. The new sheet will now show details of the second meter in the Template. This assumes you only have one tenant meter per Invoice Sheet. If you have several meters per sheet, you would replace **XLM001** with a different reference, and you would also need to replace the **XLM** references for the other meters too.

You would then repeat this process for other tenants.

3.4.4 Single Bill Template

We recommend that you create an XLeMs Template that generates a bill for a single Tenant only. This template will be used in a slightly different way to the others.

When using this Template you not only specify the Start and End dates, but you also edit the Channels (Meters) to correspond to a particular Tenant. You would use this Template when generating a "one off" bill, eg. the bill that is produced when a tenant moves out, which would not be part of the normal "billing run".

4. VAT Rates

You should be aware that in the UK the supply of utilities is subject to VAT, and that different rates apply depending on the utility supplied and the nature of the customer.

UK VAT Rates (2007) are :-

Standard Rate	17.5%
Reduced Rate	5%
Zero Rate	0%

As a general guide, supply of Energy (Electricity, Gas, Oil, Heat (hot water or steam)) is subject to VAT as follows :-

Domestic customers	Reduced Rate
Industrial & commercial customers	Standard Rate

The supply of cold water is more complex due to the definition of an "Industrial Customer" :-

Industrial customers	Standard Rate
Non-industrial customers	Zero Rate

The VAT liability for water is described in VAT notice 701/16. Companies predominantly engaged in engineering, manufacturing or construction are classed as "Industrial". Offices etc. and domestic users would normally be classed as "Non-industrial".

NB. This information is provided for guidance only, and SHM do not guarantee its accuracy. You should take professional advice before setting the VAT rates for your utility bills.