



Utilities - Metering, Settlements, and Billing

Course Synopsis

This course is a high-level study of metering, settlements, and billing for the Utility industry. The following industry functions and processes are covered in detail:

- Networks – The elements that make up the electric grid and gas network are described pictorially;
- Metering – Different types of meters, metering methods, and the different techniques used in gathering the data are discussed;
- Meter Data Management – The flow of meter data is addressed, including gap management, overlap, estimation, and validation;
- Distribution & Transmission/Transportation Charges (D&T) – The criteria used by the Wire/Pipe operators to charge the retailer/end-user are explained in detail;
- Load Profiling and Settlement – The role of the load settlement entity, the types of data it generates, and the implications to the end-user billing system in an unbundled utility environment are explored;
- Products & Services – Various types of utility products and services are described as well as pricing plans and contracts;
- Customer Care, Service Activation, & Call Center Operation – The customer-facing processes are discussed, including: pre-sales support, customer data gathering, customer queries, collections, and adjustments;
- End-User Billing – The functions of rating and cycle billing are addressed; based on the customer's products and services, we describe in detail the steps required to rate the consumption, verify D&T charges, and reconcile settlements;
- Finance – The interface between the financial processes and the billing platform are described in detail, including: journalization and the chart of financial accounts, the payment process, credit and collections, taxation, etc.

From the moment a customer turns on the gas, water, or light switch, many players have been involved, complex calculations have been performed, and a multitude of events have taken place and been recorded. These are identified and the processes and terms to support them are defined.

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Industry Overview

Introduce the student to the criticality of the three major components: Metering, Settlements, and End-User Billing. Outline the major business processes. Define and explain the terms and acronyms used within the industry. Introduce the major components of the networks. Round up this section with a process flow diagram.

- Components
- Players
- Industry Terminology

The Landscape

This module describes in detail the current state of restructuring, competition, and laws governing this volatile industry. We discuss the different business models currently in place, the major issues facing the players, and their effects on all processes.

- Restructuring and Competition in Canada and the US
- Business Models
- Major Issues

The Networks

This module describes the network infrastructure involved in delivering electric, gas, and water services to the end-user. We introduce the participants to the terminology used in this industry and the players that provide the services.

- Service Types

- ✓ Energy
- ✓ Gas
- ✓ Water
- Network Components
- Roles and Responsibilities
- Terminology

Metering

This module examines the different types of meters used and the various data-gathering techniques. The importance of meter data transfer is discussed, as well as some of the more advanced uses of metering as a key source of business intelligence.

- Responsibilities
- Types of Metering
- Data Layouts

Meter Data Management

Meter Data Management is the essence of the distribution process; multiple sources of data, high volumes, gaps, and timing issues present a big challenge. A critical part of this course is to understand the functions and processes necessary to collect the meter reads and transform them into workable units.

- Validation
- Cancels
- Gap Management
- Estimation

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Load Profiling and Settlement

This module explores the load settlement process in an unbundled utility environment. We examine the role of the load settlement entity, the types of calculations used to determine load settlement amounts, and the implications of these on D&T charges and end-user billing.

- Roles and Responsibilities
- Load Settlement Calculations
- Gas Nominations
- Types of Data
- Dispute Process
- Information Exchange
- Reporting

D&T Charges

This module describes D&T/Transportation charges and the criteria used by the Wires/Pipes operator to calculate them. The use of D&T charges as an input to the end-user billing process is also discussed.

- Inputs
- D&T Charges (Energy)
- D&T/Transportation Charges (Gas)
- Invoicing
- Rate Classes

End-User Rating

In this module, the Rating function is studied in detail; the various inputs, processes, and outputs for this function are examined. The data conversion from monthly/daily to hourly in order to support the end-user's rate plan(s) is also detailed.

- Input Sources
- Data Conversion
- Guiding to the Customer
- Rating
- Workshop

Products, Services, and Contracts

Familiarize the student with the different types of products, plans, and services currently being marketed, and ways in which they can be billed to the end-user. A discussion of restructuring and competition helps the student understand why there are so many different ways to price utility services.

- Contracts
- Market Segments
- Products/Rate Plans

Customer Care & Service Activation

This module examines the major functions performed by Customer Care. Special attention is paid to the systems requirements supported by these functions, and to the human factors necessary to meet the customer's needs. Some of the topics covered: Call Center requirements, Supporting Customer Hierarchies, Service Activation.

- Pre-Sale
- Service Activation
 - ✓ Site Catalogue
 - ✓ Enrollment
 - ✓ Energize
- Active Subscriber Phase

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- Customer Relationship Management
 - ✓ Call Center Management
 - ✓ On-Line System Requirements
 - ✓ Major Functions
 - ✓ Self Care/E-Care
- Service Termination

Bill Calculation and Presentment

A comprehensive study of all functions related to cycle billing, including: calculation of charges and credits, taxation, journalizing, quality control, and bill presentment.

- Bill Calculation Activities
 - ✓ Customer Selection
 - ✓ Product Setup
 - ✓ Consumption Accumulation
 - ✓ Rebates/Adjustments
 - ✓ Fixed Charges
 - ✓ Taxes
- Bill Presentment: The Invoice

Financial Interface

Topics covered in this section include:

- Billing as a Specialized A/R System
- Financial Chart of Accounts
- System Audit Requirements
- Revenue Assurance Requirements

Looking to the Future

What are the current trends in the Utility Industry? What is the impact of the latest mergers and acquisitions? How will end-user billing fare in the turmoil?

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