

**Oracle Utilities Customer Care and Billing
Release 2.5.0**

Utility Reference Model

4.2.2.2 Manage Meter Charges

August 2016

Oracle Utilities Customer Care and Billing Release 2.5.0 Utility Reference Model 4.2.2.2 Manage Meter Charges

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4.2.2.2 Manage Meter Charges

This section provides a description of the “Manage Meter Charges” business process, including:

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- ♦ [Installation Options - Control Central Alert Algorithms](#)
- ♦ [Various Rate Schedule Algorithms and Major Configuration Information](#)
- ♦ [Related Training](#)

Brief Description

Business Process: 4.2.2.2 CC&B v2.5 Manage Meter Charges

Process Type: Sub-Process

Parent Process: 4.2.2 CC&B v2.5 Manage Bill

Sibling Processes:

- 4.2.2.3 CC&B v2.5 Manage Item Charges
- 4.2.2.4 CC&B v2.5 Manage External and Miscellaneous Charges
- 4.2.2.5 CC&B v2.5 Manage Loan Charges
- 4.2.2.6 CC&B v2.5 Manage Deposit Charges
- 4.2.1.3a CC&B v2.5 Validate Meter Reads
- 4.3.3.1 CC&B v2.5 Manage Payments
- 4.2.2.15 CC&B v2.5 Manage Net Energy Metering Charges

This process describes Billing for Metered services. A Bill is used to communicate financial obligations to the customer. The customer may have many services with an organization. The customer receives a Bill at regularly scheduled intervals for each established Account. The total amount owed, as well as financial and consumption details for each service, is placed on a Bill for payment within a set time period.

Most bills are produced automatically in a Batch Billing process. If errors are detected, the Bill is saved with an error status for review. The CSR or Authorized User can create Bills manually if required. If a Bill is generated as valid but has missing or incomplete information, the CSR or Authorized User has the ability to modify the bill.

When a Bill for metered service is created, consumption is calculated first. The system then applies the service agreement's rate to the consumption to calculate how much the customer owes. This information is placed on a Bill Segment and a financial record is also created.

The Bill contains information about financial activity since the last time the customer was billed. The Bill will include information for Payments, Adjustments, and Bill corrections in addition to the current Bill information. The organization can communicate pertinent information to the customer through the use of Bill messages. Bills will be sent to every person linked to the account who requires a copy of the Bill.

It is possible to rebill at a later date if missing or inaccurate information is discovered.

The customer is responsible for payment by a given due date. If the Customer does not pay, CC&B can detect the overdue amounts and provide notification.

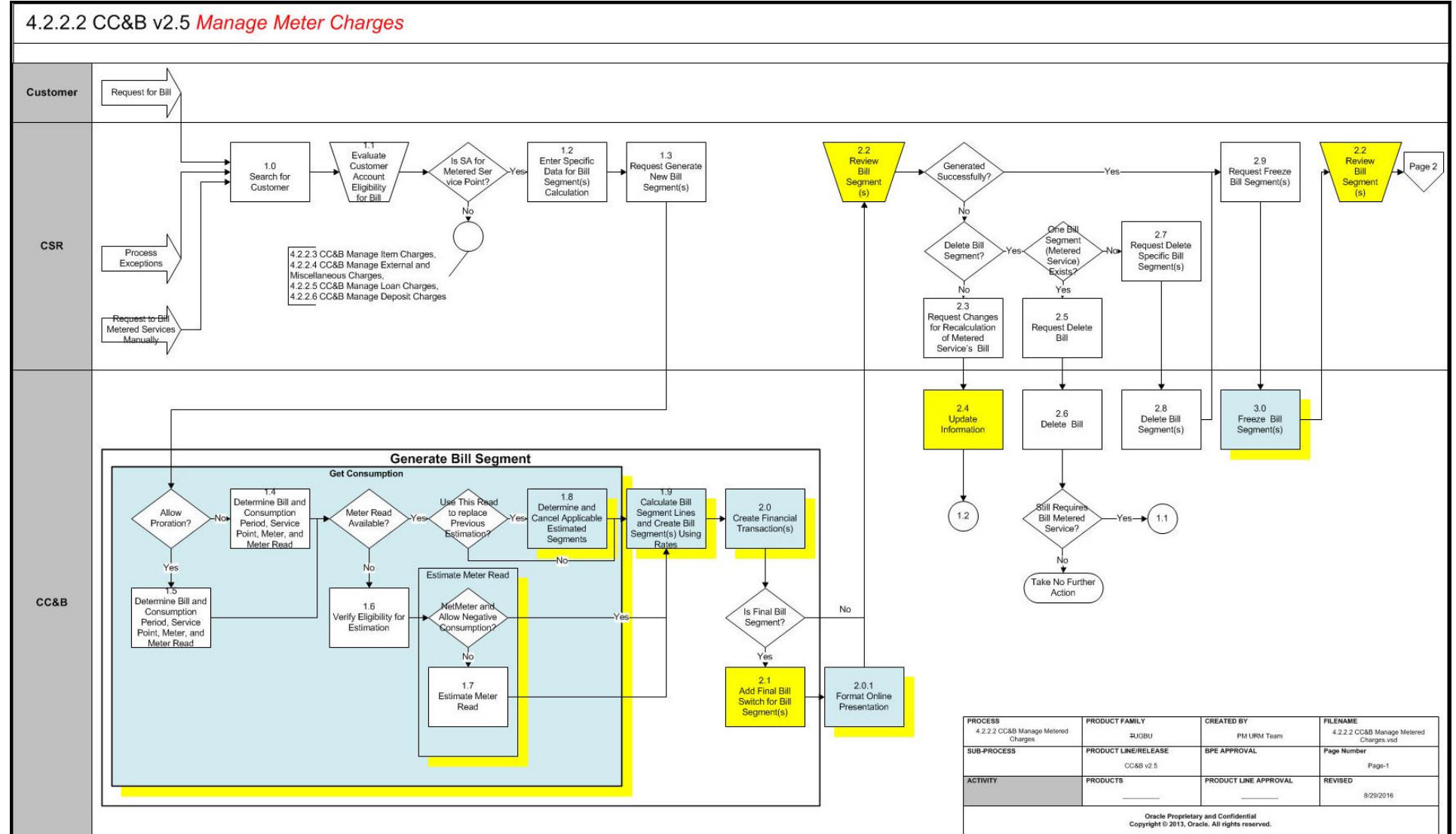
Actors/Roles

The Manage Meter Charges business process involves the following actors and roles:

- **CC&B:** The Customer Care and Billing application. Steps performed by this actor/role are performed automatically by the application, without the need for user initiation or intervention.
- **CSR:** CSR or Authorized User of the Customer Care and Billing application.

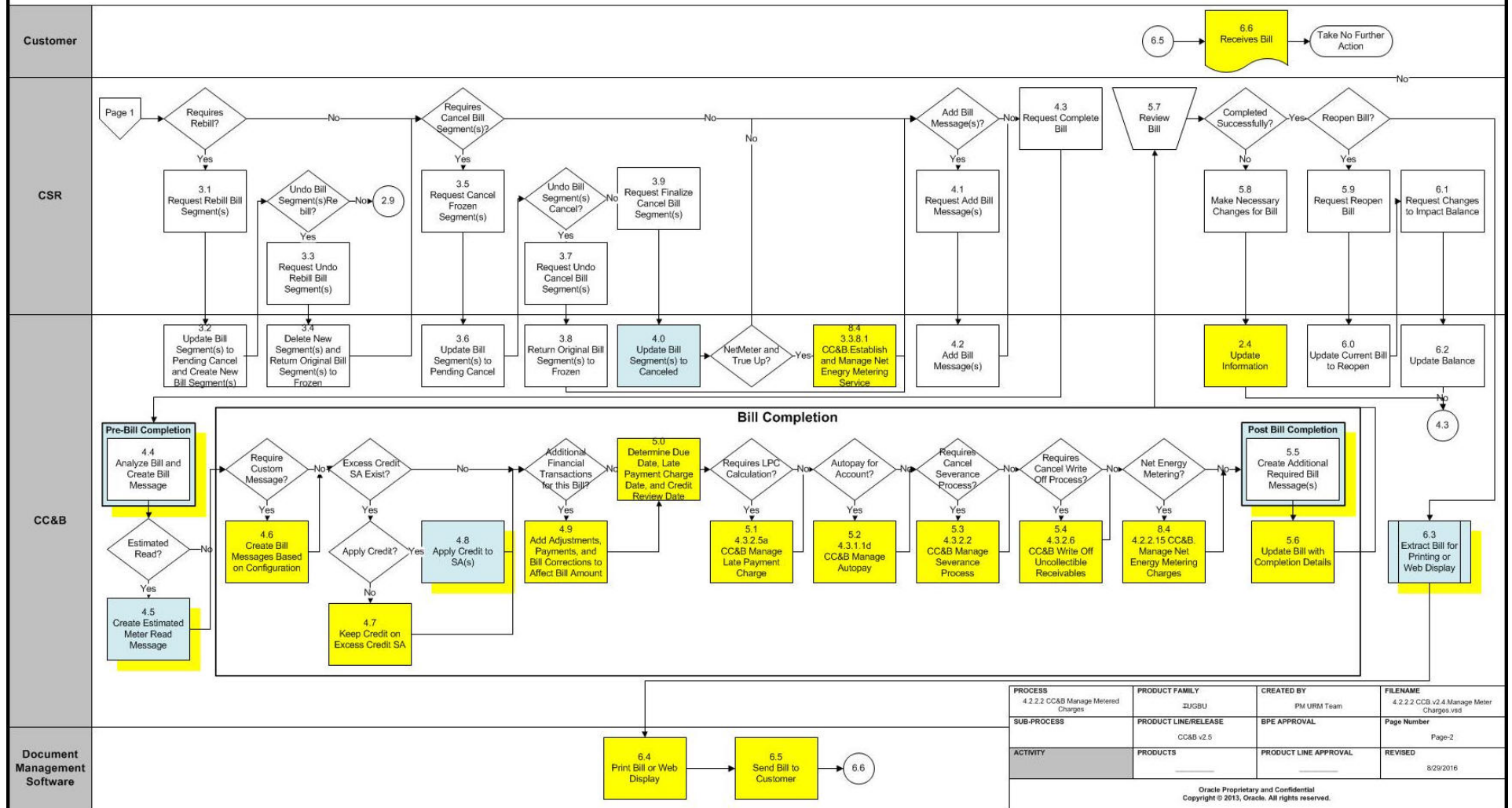
Business Process Diagrams

Manage Meter Charges Process Model - Page 1



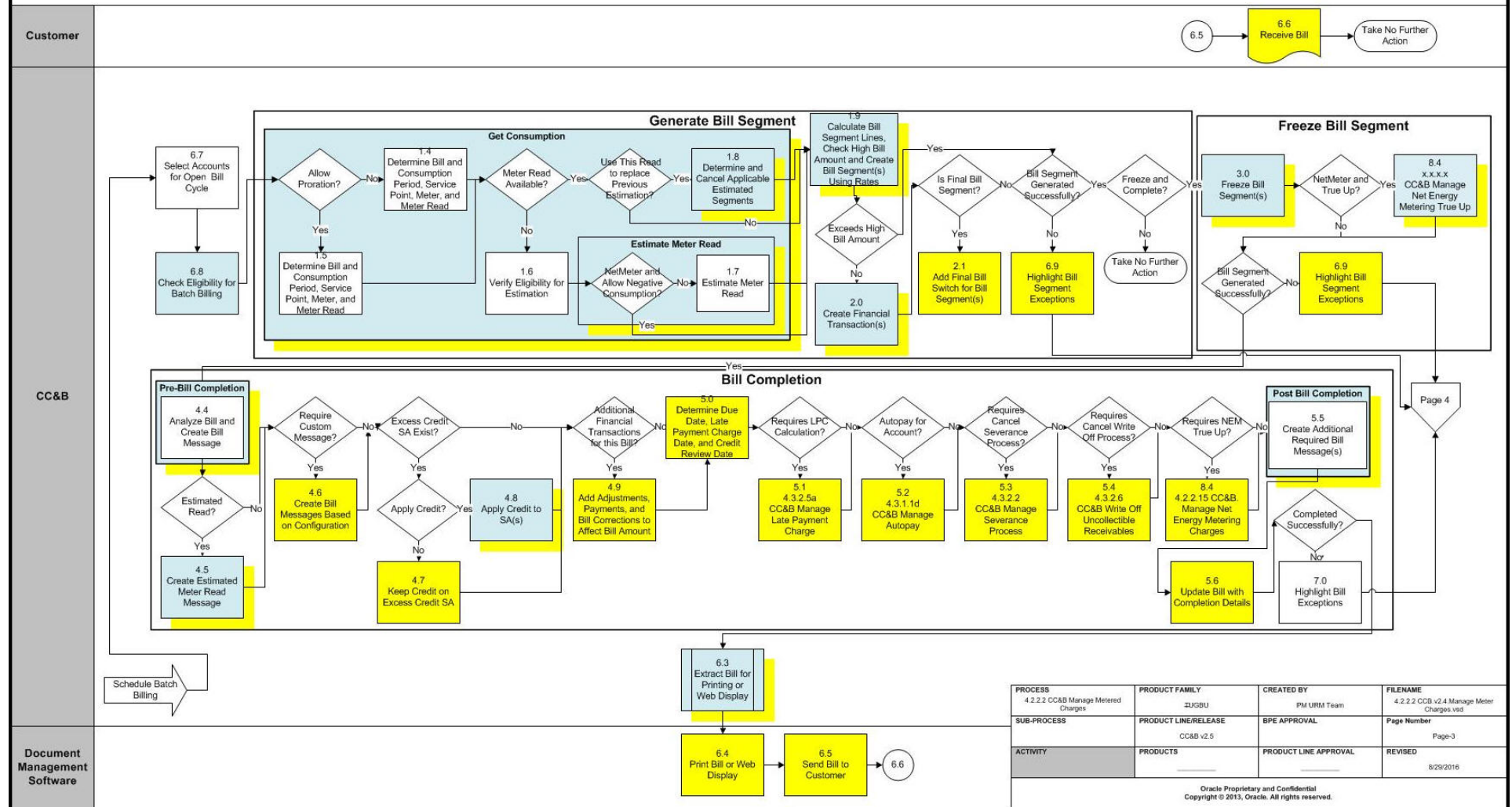
Manage Meter Charges Process Model - Page 2

4.2.2.2 CC&B v2.5 *Manage Meter Charges*



Manage Meter Charges Process Model - Page 3

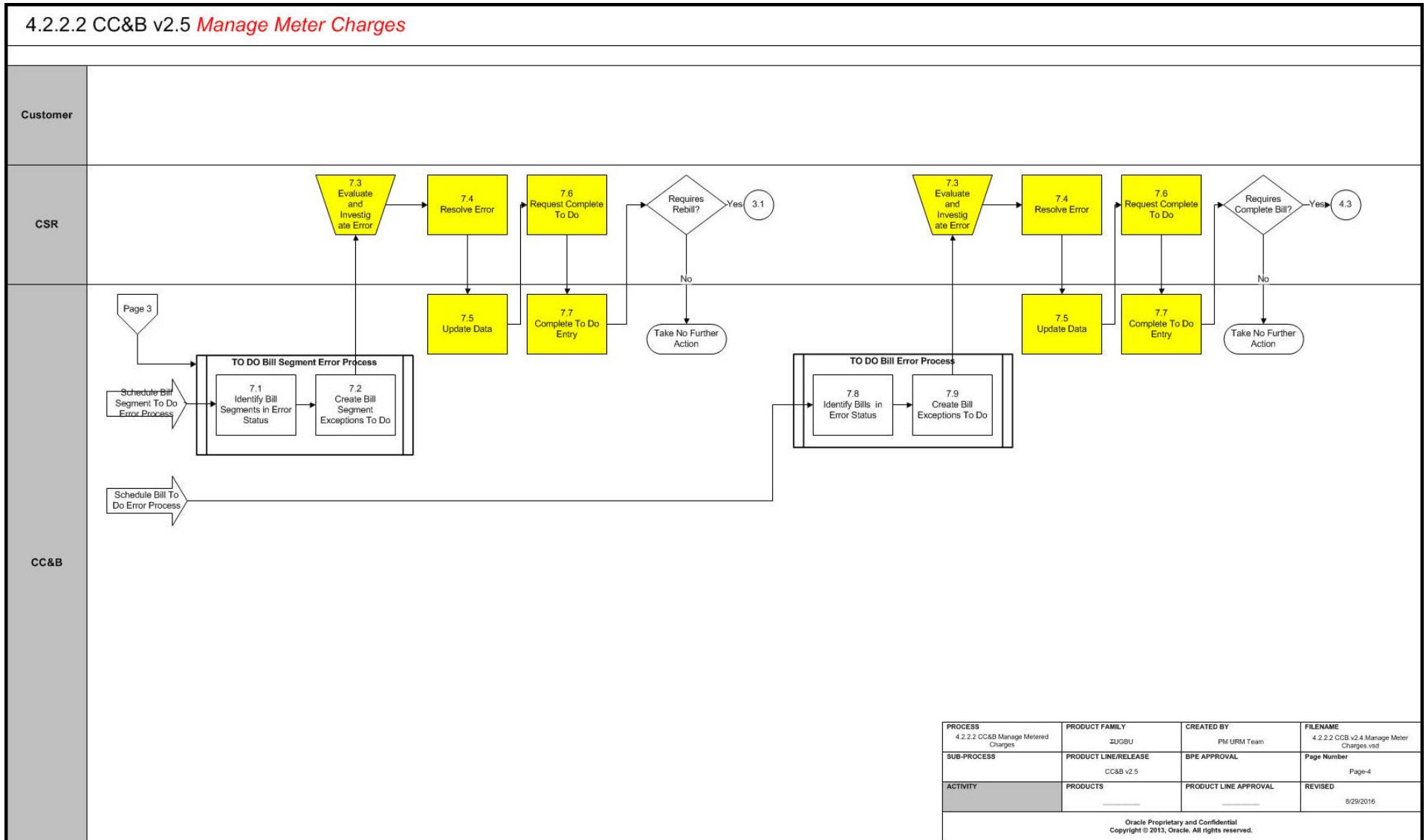
4.2.2.2 CC&B v2.5 *Manage Meter Charges*



PROCESS	PRODUCT FAMILY	CREATED BY	FILENAME
4.2.2.2 CC&B Manage Metered Charges	21/GBU	PM URM Team	4.2.2.2 CC&B v2.4 Manage Meter Charges.vsd
SUB-PROCESS	PRODUCT LINE/RELEASE	BPE APPROVAL	Page Number
	CC&B v2.5		Page-3
ACTIVITY	PRODUCTS	PRODUCT LINE APPROVAL	REVISED
			8/29/2016

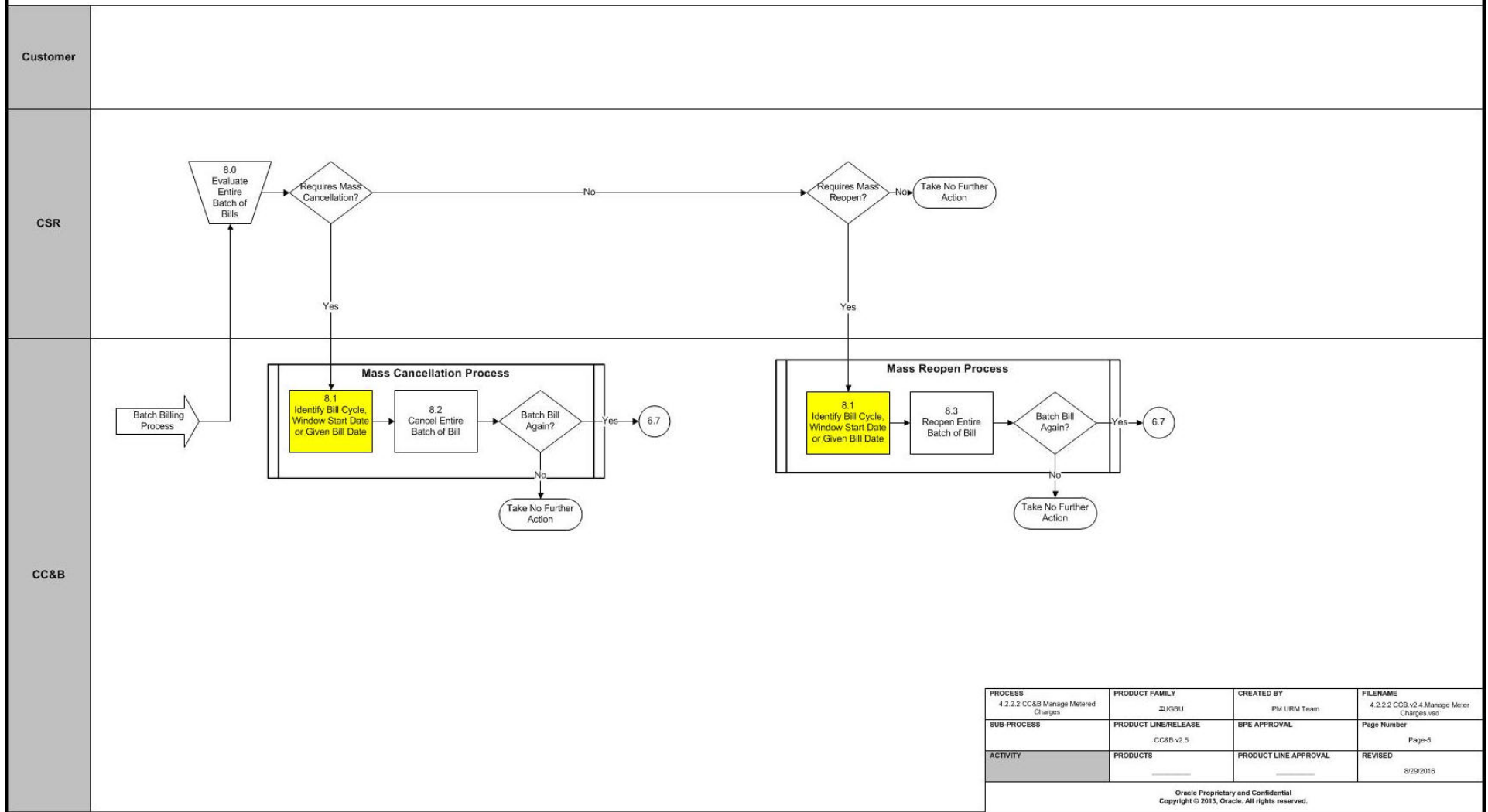
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Manage Meter Charges Process Model - Page 4



Manage Meter Charges Process Model - Page 5

4.2.2.2 CC&B v2.5 *Manage Meter Charges - Mass Cancellation and Reopen*



PROCESS	4.2.2.2 CC&B Manage Metered Charges	PRODUCT FAMILY	UJGBU	CREATED BY	PM URM Team	FILENAME	4.2.2.2 CCB v2.4 Manage Meter Charges.vsd
SUB-PROCESS		PRODUCT LINE/RELEASE	CC&B v2.5	BPE APPROVAL		Page Number	Page-5
ACTIVITY		PRODUCTS		PRODUCT LINE APPROVAL		REVISED	8/29/2016

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Manage Meter Charges Detailed Process Model Description

This section provides a detailed description of the “Manage Meter Charges” business process, including:

- ♦ 1.0 Search for Customer
- ♦ 1.1 Evaluate Customer Account Eligibility for Bill
- ♦ 1.2 Enter Specific Data for Bill Segments Calculation
- ♦ 1.3 Request Generate New Bill Segments
- ♦ 1.4 Determine Bill Period, Consumption Period, Service Point, Meter, and Meter Read
- ♦ 1.5 Determine Prorated Bill Period, Consumption Period, Service Point, Meter, and Meter Reads
- ♦ 1.6 Verify Eligibility for Estimation
- ♦ 1.7 Estimate Meter Read
- ♦ 1.8 Determine and Cancel Applicable Estimated Segments
- ♦ 1.9 Calculate Bill Segment Lines and Create Bill Segments Using Rates
- ♦ 2.0 Create Financial Transactions
- ♦ 2.1 Add Final Bill Switch for Bill Segments
- ♦ 2.0.1 Format Online Presentation
- ♦ 2.2 Review Bill Segments
- ♦ 2.3 Request Changes for Recalculation of Metered Service's Bill
- ♦ 2.4 Update Information
- ♦ 2.5 Request Delete Bill
- ♦ 2.6 Delete Bill
- ♦ 2.7 Request Delete Specific Bill Segments
- ♦ 2.8 Delete Bill Segments
- ♦ 2.9 Request Freeze Bill Segments
- ♦ 3.0 Freeze Bill Segments
- ♦ 3.1 Request ReBill Bill Segments
- ♦ 3.2 Update Bill Segments to Pending Cancel and Create New Bill Segments
- ♦ 3.3 Request Undo ReBill Bill Segments
- ♦ 3.4 Delete New Segments and Return Original Bill Segments to Frozen
- ♦ 3.5 Request Cancel Frozen Segments
- ♦ 3.6 Update Bill Segments to Pending Cancel
- ♦ 3.7 Request Undo Cancel Bill Segments
- ♦ 3.8 Return Original Bill Segments to Frozen
- ♦ 3.9 Request Finalize Cancel Bill Segments
- ♦ 4.0 Update Bill Segments to Canceled
- ♦ 4.1 Request Add Bill Messages
- ♦ 4.2 Add Bill Messages
- ♦ 4.3 Request Complete Bill
- ♦ 4.4 Create Bill Message
- ♦ 4.5 Create Estimated Meter Read Message
- ♦ 4.6 Create Bill Messages Based on Configuration
- ♦ 4.7 Keep Credit on Excess Credit SA
- ♦ 4.8 Apply Credit to SA's
- ♦ 4.9 Add Adjustments, Payments, and Bill Corrections to Affect Bill Amount
- ♦ 5.0 Determine Due Date, Late Payment Charge Date, and Credit Review Date
- ♦ 5.1 4.3.2.5a CC&B v2.5 Manage Late Payment Charge
- ♦ 5.2 4.3.1.1d CC&B v2.5 Manage Autopay
- ♦ 5.3 4.3.2.2 CC&B v2.5 Manage Severance Process

- ◆ 5.4 4.3.2.5 Write Off Uncollectible Receivables
- ◆ 5.5 Create Additional Required Bill Messages
- ◆ 5.6 Update Bill with Completion Details
- ◆ 5.7 Review Bill
- ◆ 5.8 Make Necessary Changes for Bill
- ◆ 5.9 Request Reopen Bill
- ◆ 6.0 Update Current Bill to Reopen
- ◆ 6.1 Request Changes to Impact Balance
- ◆ 6.2 Update Balance
- ◆ 6.3 Extract Bill for Printing or Web Display
- ◆ 6.4 Print Bill or Web Display
- ◆ 6.5 Send Bill to Customer
- ◆ 6.6 Receives Bill
- ◆ 6.7 Select Accounts for Open Bill Cycle
- ◆ 6.8 Check Eligibility for Batch Billing
- ◆ 6.9 Highlight Bill Segment Exceptions
- ◆ 7.0 Highlight Bill Exceptions
- ◆ 7.1 Identify Bill Segments in Error Status
- ◆ 7.2 Create Bill Segment Exceptions To Do
- ◆ 7.3 Evaluate and Investigate Error
- ◆ 7.4 Resolve Error
- ◆ 7.5 Update Data
- ◆ 7.6 Request Complete To Do
- ◆ 7.7 Complete To Do Entry
- ◆ 7.8 Identify Bills in Error Status
- ◆ 7.9 Create Bill Exceptions To Do
- ◆ 8.0 Evaluate Entire Batch of Bills
- ◆ 8.1 Identify Bill Cycle, Window Start Date or Given Bill Date
- ◆ 8.2 Cancel Entire Batch of Bills
- ◆ 8.3 Reopen Entire Batch of Bills
- ◆ 8.4 4.2.2.15 Manage Net Energy Metering Charges

1.0 Search for Customer

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CSR

Description: Upon receipt of request or inquiry for Billing the CSR or Authorized User accesses Control Central Search to locate the customer in CC&B.

Entities to Configure

- Installation Options

1.1 Evaluate Customer Account Eligibility for Bill

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CSR

Description: CC&B provides the CSR or Authorized User with valuable insight and overall analysis of the Customer's financial situation. The CSR or Authorized User evaluates the Customer's Account. Account Financial History, Premise and Service Agreement Billing History, Credit Rating, and Credit and Collection History may be reviewed. Control Central Alerts and other Dashboard information assist the CSR or Authorized User in determining eligibility for adding new Bill or any rebilling based on established business rules.

Available Algorithms

- Installation Options - Control Central Alerts ([Installation Options - Control Central Alert Algorithms](#))
- Installation Options - BIFN-BL This algorithm formats the Bill Information that appears throughout the system. Four different formats are used.

Entities to Configure

- Installation Options

1.2 Enter Specific Data for Bill Segments Calculation

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CSR

Description: If the CSR or Authorized User identifies a need to create a Bill for the customer, the CSR or Authorized User provides information about the Billing period for the bill to be created. The CSR or Authorized User must specify Cutoff Date or Use Schedule to determine the end date of each Bill Segment Bill period. The Accounting Date defaults to current date however the CSR or Authorized User may change this date based on established business rules. The CSR or Authorized User may choose to allow for system estimation and will mark accordingly.

1.3 Request Generate New Bill Segments

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CSR

Description: The Manual billing process consists of several steps. The first step is to request system to calculate and create the Bill and Bill Segment. The CSR or Authorized User requests to generate a new online Bill. This online Bill may contain one or more segments. If only one Service Agreement exists for the Account, then only one Bill Segment is created.

Note: The “Generate” function is used when creating a new Bill, Bill Segment, or re-generating an existing freezable or error segment. A deleted Bill Segment may be generated again once information is changed.

1.4 Determine Bill Period, Consumption Period, Service Point, Meter, and Meter Read

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Group:

- Get Consumption
- Generate Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: As a first step of Metered Service Bill Segment calculation, CC&B determines consumption to be billed. The system determines the Bill Period boundary, and next determines the Consumption Period boundary. The system retrieves appropriate Service Point, Meter, and associated Meter Reads. Meter Reads determine the start and end date for the Bill Segment Consumption Period. Refer to the CC&B - MDM integration URM for details.

Manual Process: CSR or Authorized User provides the Bill period details if required. If not, the system defaults Bill period dates following the business rules:

- Start Date:
 - If this is the first Bill Segment for the Service Agreement, the start date is set to the start date of the Service Agreement
 - If this is the regular Bill Segment the start date is the previous Bill Segment's end date.
- End Date
 - If this is the last Bill Segment for the Service Agreement, Bill Segment's end date is the Service Agreement's end date
 - If this is the regular Bill Segment end date is the end date of Bill Cycle schedule window.
- OR
 - In the case of on-line billing, determined by the CSR or Authorized User.

Automated Process: System identifies start and end date for the billing period using the same business rules as described in manual process.

The consumption period is the inclusive period passed to the Rates. It is used for calculating the charges for the Bill Segment. The system looks at every Service Point linked to the Service Agreement. The system retrieves each meter linked to each Service Point during the Bill period (a service point has multiple meters when a meter exchange has occurred during the Bill period).

Note: The system ignores Service Points that are not billable, disconnected before the Bill period started, or are yet to be connected as of the Bill end date.

Available Algorithms

- BSGC-SP - This algorithm is used to get consumption from the SPs linked to the SA. To determine consumption from meters, meter reads are retrieved from the Meter Configurations installed at the SA's SPs during the Bill period. The reads are stored in the Bill Segment's read details.
- BSGC-MS - This algorithm simply copies the read and item details from the master SA's bill segment. This is done because ratable sub SA's are always billed together with their Master SA. This is done so that the exact consumption that is used to calculate the master SA's charges is also used to calculate the sub SA's charges.

- C1-BSGC-USG (CC&B and MDM integration) - This algorithm is used for service agreements that require bill determinants from MDM.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an "open" Bill cycle.
- C1-USGTR - Usage Periodic Monitor Process. This batch process is responsible for transitioning batch billing usage requests and sending them to the MDM system.

Entities to Configure

- Frequency
- Bill Cycles
- Bill Segment Type
- Rates ([Various Rate Schedule Algorithms and Major Configuration Information](#))
- SA Types

Business Objects

- C1-UsageRequestCyclicalBilling - MDM Cyclical Billing Usage Request. This business object defines the behavior of a usage request created from the cyclical or batch billing process.
- C1-CyclicalUsgReqOutMsg - MDM Cyclical Billing Usage Request Outbound Message. This business object is used to request bill determinants from MDM for a cyclical or batch bill.
- C1-UsageRequestNonCyclical - MDM Non-Cyclical Billing Usage Request. This business object defines the behavior of a usage request created from non-cyclical or online bill generation.
- C1-NonCyclicalUsgReqOutMsg - MDM Non-Cyclical Billing Usage Request Outbound Message. This business object is used to request bill determinants from MDM for a non-cyclical or online bill.

1.5 Determine Prorated Bill Period, Consumption Period, Service Point, Meter, and Meter Reads

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Group:

- Get Consumption
- Generate Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: As a first step of Metered Service Bill Segment calculation, CC&B determines consumption to be billed. The system determines the Bill Period boundary, and next determines the Consumption Period boundary. The system retrieves appropriate Service Point, Meter, and associated Meter Reads. Meter Reads determine the start and end date for the Bill Segment Consumption Period.

Manual Process: CSR or Authorized User provides the Bill period details if required. If not, the system defaults Bill period dates following the business rules:

- Start Date
 - If this is the first Bill Segment for the Service Agreement, the start date is set to the start date of the Service Agreement.
 - If this is the regular Bill Segment the start date is the previous Bill Segment's end date.

- End Date
 - If this is the last Bill Segment for the Service Agreement, Bill Segment's end date is the Service Agreement's end date.
 - If this is the regular Bill Segment end date is the end date of Bill Cycle schedule window.
- OR
 - In the case of on-line billing, determined by the CSR or Authorized User.

Automated Process: System identifies start and end date for the billing period using the same business rules as described in manual process.

The consumption period is the inclusive period passed to the Rates. It is used for calculating the charges for the Bill Segment. The system looks at every Service Point linked to the Service Agreement. The system retrieves each meter linked to each Service Point during the Bill period (a service point has multiple meters when a meter exchange has occurred during the Bill period).

If this is the first or final Bill Segment for the customer, the number of days may be more or less than the normal Bill period. Based on established business rules, the system allows for proration of first or final Bill Segment as well as other Bill Periods outside the normal time period.

Note: Every SA type defines the minimum number of days on a Bill Segment. Whenever the system attempts to create a Bill Segment other than the final Bill Segment, it checks if the number of days is at least as great as the minimum defined on the SA type.

Note: The system ignores Service Points that are not billable, disconnected before the Bill period started, or are yet to be connected as of the Bill end date.

Available Algorithms

- BSGC-SP - This algorithm is used to get consumption from the SPs linked to the SA. To determine consumption from meters, meter reads are retrieved from the Meter Configurations installed at the SA's SPs during the Bill period. The reads are stored in the Bill Segment's read details.
- BSGC-MS - This algorithm simply copies the read and item details from the master SA's bill segment. This is done because ratable sub SA's are always billed together with their Master SA. This is done so that the exact consumption that is used to calculate the master SA's charges is also used to calculate the sub SA's charges.
- C1-BSGC-USG (CC&B and MDM integration) - This algorithm is used for service agreements that require bill determinants from MDM.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an "open" Bill cycle.

Entities to Configure

- Frequency
- Bill Cycles
- Bill Segment Type and associated algorithms
- Rates ([Various Rate Schedule Algorithms and Major Configuration Information](#))
- SA Types

1.6 Verify Eligibility for Estimation

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Group:

- Get Consumption
- Generate Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: If no reads can be found, CC&B verifies the Customer's Service Agreement is eligible to estimate a read. This step is executed from online and batch processing.

Available Algorithms

- TSMRE-LA - This algorithm uses a combination of methods; it looks historically one year ago, the immediate preceding Bill period or uses Trend if no historical reads can be found.
- MR EST TREND - This algorithm uses trends for estimating meter reads.
- BSGC-SP - This algorithm is used to get consumption from the SPs linked to the SA. To determine consumption from meters, meter reads are retrieved from the Meter Configurations installed at the SA's SPs during the Bill period. The reads are stored in the Bill Segment's read details.
- BSGC-MS - This algorithm simply copies the read and item details from the master SA's bill segment. This is done because ratable sub SA's are always billed together with their Master SA. This is done so that the exact consumption that is used to calculate the master SA's charges is also used to calculate the sub SA's charges.
- C1-BSGC-USG (CC&B and MDM integration) - This algorithm is used for service agreements that require bill determinants from MDM.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an "open" Bill cycle.

Entities to Configure

- Frequency
- Bill Cycles
- Bill Segment Type
- Rates ([Various Rate Schedule Algorithms and Major Configuration Information](#))
- SA Types
- Trends

1.7 Estimate Meter Read

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Group:

- Get Consumption
- Generate Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: If eligibility requirements are met and the SP is not setup for Negative Consumption, the system estimates consumption and generates a corresponding system estimated read. This step is executed from online and batch processing.

Available Algorithms

- BSGC-SP - This algorithm is used to get consumption from the SPs linked to the SA. To determine consumption from meters, meter reads are retrieved from the Meter Configurations installed at the SA's SPs during the Bill period. The reads are stored in the Bill Segment's read details.
- BSGC-MS - This algorithm simply copies the read and item details from the master SA's bill segment. This is done because ratable sub SA's are always billed together with their Master SA. This is done so that the exact consumption that is used to calculate the master SA's charges is also used to calculate the sub SA's charges.
- C1-BSGC-USG (CC&B and MDM integration) - This algorithm is used for service agreements that require bill determinants from MDM.
- MR EST TREND - This algorithm uses trends for estimating meter reads.
- TSMRE-LA - This algorithm uses a combination of methods; it looks historically one year ago, the immediate preceding Bill period or uses Trend if no historical reads can be found.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

Entities to Configure

- Frequency
- Bill Cycles
- Bill Segment Type
- Rates ([Various Rate Schedule Algorithms and Major Configuration Information](#))
- SA Types
- Trends

1.8 Determine and Cancel Applicable Estimated Segments

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Group:

- Get Consumption
- Generate Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: CC&B can cancel previously estimated Bill Segments and bill over an extended period of time from one non-estimated read to another. If the system creates a Bill Segment with a defined Good Read Type, CC&B cancels previous Bill Segments that contain system-estimated meter reads until it detects a Bill Segment with a reading that is less than the reading on the current Bill Segment. The maximum number of Bills automatically canceled is configurable.

Available Algorithms

- BSAXERLIM - This algorithm cancels historical, estimated Bill Segments when a defined “real” read is used on the current Bill.
- C1-BSAXMINGR - This bill segment automatic cancellation algorithm is typically used to cancel historical, estimated bill segments when a “real” read is used on the current bill.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

Entities to Configure

- Frequency
- Bill Cycles
- Bill Segment Type
- Rates ([Various Rate Schedule Algorithms and Major Configuration Information](#))
- SA Types
- Trends

1.9 Calculate Bill Segment Lines and Create Bill Segments Using Rates

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Group:

- Generate Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: CC&B passes the consumption information to rates to calculate the Bill Segment. The rate components are used to build the Bill Segment calculation lines and referenced on these calculation lines. This step is executed from online and batch processing. If this is from batch processing, it checks if the bill segment amount reached the high bill amount of SA.

Available Algorithms

- BSBS-RT - This Bill Segment creation algorithm creates a Bill Segment using the service agreement's rate. This option would typically be used for metered services and ratable non-metered services.
- C1-BSBS-UR (CC&B and MDM integration) - This algorithm finds the usage request linked to the bill segment in the bill determinants received state. It retrieves the usage period's list that contains an entry for each usage period that MDM calculated bill determinants for. Rate application is called for each entry in the usage period list; the usage period and bill determinants are passed to rate application.
- C1-HIGHBILL - This SA Type High Bill Amount algorithm checks for high bill amounts during batch billing.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an "open" Bill cycle.

Entities to Configure

- Bill Segment Type
- Rates ([Various Rate Schedule Algorithms and Major Configuration Information](#))
- Billing Process Sequence defined on SA Type

2.0 Create Financial Transactions

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Group:

- Generate Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: CC&B creates the associated financial details related to the Bill Segment. The Financial Transaction contains the financial effects of the Bill Segment on the Service Agreement's

current and payoff balances and on the General Ledger. This step is executed from online and batch processing.

Note: If the customer has Net Metering sub SA, refer to 4.2.2.15 CC&B v2.5 Manage Net Energy Metering Charges for details.

Available Algorithms

- BSBF-BA - This Bill Segment financial transaction algorithm creates a financial transaction for a Bill Segment where: - Payoff amount = Bill amount - Current amount = Bill amount / zero / recurring charge amount
- BSBF-CU - This bill segment financial transaction algorithm creates a financial transaction for a bill segment where: - Payoff amount = 0 - Current amount = 0 - The general ledger is affected. Distribution codes are taken from the bill lines (typically these GL accounts are credited) and the SA type (typically this GL account is debited).
- C1-C0-GL - This bill segment financial transaction algorithm creates a financial transaction for a bill segment where: - Payoff amount = bill amount - Current amount = 0- The general ledger is affected
- C1-C0-NOGL - This bill segment financial transaction algorithm creates a financial transaction for a bill segment where: - Payoff amount = bill amount - Current amount = 0- The general ledger is not affected.
- CI_BSGFTDIST - Payoff Amt = Bill Amt / Current Amt = Amt Due (Checks bill segment CLOB for GL details)
- BSFZ-EMPTY - This is a Customer Class Bill Segment freeze/cancel algorithm.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

Entities to Configure

- Rates ([Various Rate Schedule Algorithms and Major Configuration Information](#))
- Customer Class
- Bill Segment Type

2.1 Add Final Bill Switch for Bill Segments

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Group:

- Generate Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: If this is the final Bill Segment for this Service Agreement it is marked as a closing Bill Segment.

Note: The Service Agreement must be stopped for this switch to be turned on.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

2.0.1 Format Online Presentation

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CC&B

Description: Formatting information to be presented Online.

Available Algorithms

- C1-BSI-INFO - This algorithm formats the "Bill Segment Information" that appears throughout the system. It concatenates the fields and delimiters specified as algorithm parameters.
- C1-BST-INFO - This algorithm formats the "Bill Segment Information" that appears throughout the system. It concatenates the fields and delimiters specified as algorithm parameters.
- C1-BL-DISP - This algorithm is used to generate a bill image using the Documaker software product.
- C1-ONLN-CR - This algorithm is used to generate a bill image using a Reporting Engine.

Processes

- BILLING - The Bill cycle Batch processing creates Bills and Bill Segments for accounts with an "open" Bill cycle.

Entities to Configure

- Bill Segment Type - Bill Segment Information
- Installation Options - Framework- Bill Segment Information

2.2 Review Bill Segments

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User reviews the Bill Segment for accuracy and determines the next action. The CSR or Authorized User decides if billing process could be continued, Bill Segment is incorrect, or created by mistake and needs to be deleted, rebilled, or canceled.

Business Objects

- WX-Bill - Bill business object (simple bill elements only). This business object is used for simple access to bill information.
- BillRoutingR - Bill Routing Details. This business object is used on the billing history zone displayed on control central - account information.
- C1-BillLite - This business object can be used to read the fields (except CLOB) of the MO's primary table - Bill.
- CI_BillDocumentNumber - This business object is used by the bill print extract algorithm (CI_BLEX-XML) to retrieve a bill's document number and document type.
- C1-BillSegmentStatus - Bill Segment Status. This business object is used to retrieve the status of a bill segment.
- WX-BillSegment - Bill Segment. This business object is used to read the details related to a bill segment.
- C1-BillSegmentRead - Bill Segment Read
- C1-BillSegmentLite - This business object can be used to read the fields (except CLOB) of the MO's primary table - Bill Segment.

- CI_BillSegmentException - This business object is used to read the exception related to a bill segment.
- CI_BillSegmentCLOB - This business object is used to read the CLOB details related to a bill segment.
- C1-BillSegmentCalcHeaders - This business object is used to read details related to a bill segment. The following is returned:
 - Bill Segment's SA ID
 - Bill ID
 - Bill Segment Period
 - Usage Period
 - Calculation Header List

2.3 Request Changes for Recalculation of Metered Service's Bill

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CSR

Description: After review CSR or Authorized User identifies a problem with the generated Bill segment. The CSR or Authorized User, based on established business rules, then adds or changes the data used for the Bill Segment calculation. Typical changes can include the addition of a new read, removing the use on Bill switch from an existing read, allow for estimation, or changes to dates. There are no specific restrictions on changes that need to be done across the application to calculate the correct Bill Segment.

2.4 Update Information

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CC&B

Description: Changes requested by the CSR or Authorized User are applied in CC&B.

2.5 Request Delete Bill

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CSR

Description: During the review process it is determined the Bill Segment was created incorrectly or by mistake. The CSR or Authorized User requests to delete the Bill or Bill Segment. When a Bill has only one Bill segment, the Bill and the corresponding segment are deleted at the Bill level.

Note: The Bill can be deleted prior to completion when Bill Segments are Freezable or in Error status.

2.6 Delete Bill

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CC&B

Description: The Bill is deleted in CC&B and the financial record is removed from the database. There is no financial impact to the Customer's Account.

2.7 Request Delete Specific Bill Segments

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User determines specific Metered Service Bill Segments associated with a given Bill require deletion and requests to delete the Bill Segments.

2.8 Delete Bill Segments

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CC&B

Description: The specific Bill Segments are deleted in CC&B and the financial records are removed from the database. There is no financial impact to the Customer's Account related to the deleted Bill Segments.

2.9 Request Freeze Bill Segments

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Actor/Role: CSR

Description: If the CSR or Authorized User does not identify a problem and decides to continue the Billing process, he/she requests to Freeze the Bill Segments.

3.0 Freeze Bill Segments

Reference: [Manage Meter Charges Process Model - Page 1 on page 3](#) for the associated business process diagram.

Group:

- Freeze Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: The Bill Segments and associated Financial Transaction are frozen in CC&B. The Bill Freeze Option on the Installation Options controls when a Service Agreement's balance and General Ledger is affected by the Bill Segment and must be configured to meet the organization's accounting practices.

- **Manual Process:** Process is initiated by CSR or Authorized User when he/she requests to Freeze Bill Segments created for Service Agreement.
- **Automated Process:** This is a component of Batch Billing process and gets executed as a part of scheduled batch billing process that runs periodically. Functionality is the same as described in Manual process.

Note: If the customer has Net Metering sub SA, refer to 4.2.2.15 CC&B v2.5 Manage Net Energy Metering Charges for details.

Available Algorithms

- BSFZ-EMPTY - This is a Customer Class Bill Segment freeze/cancel algorithm.
- C1-RV-TRUP - FT Freeze algorithm for sub SA: Transition TUM to Reverse True Up

Business Objects

- C1-NEMTrueUpTask

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

Entities to Configure

- Installation Options - Bill Freeze Options
- SA Type

3.1 Request ReBill Bill Segments

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: As more information is available, or there is further review or investigation, the CSR or Authorized User now determines a need to ReBill the Bill Segments. If the problem identified in the frozen Bill Segment has been resolved, the CSR or Authorized User requests to Cancel and Rebill the Bill Segments.

Note. When something has been wrong for an extended period of time with Billing Service Agreement, CSR or Billing Analyst may use Multi Cancel/Rebill page to request Cancel/Rebill.

Entities to Configure

- Bill Cancel Reasons

3.2 Update Bill Segments to Pending Cancel and Create New Bill Segments

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CC&B

Description: The original Bill Segments is updated to Pending Cancel, and new Bill Segments created. A new Financial Transaction is associated with the new Bill Segment and the original Financial Transaction is pending Cancel.

Entities to Configure

- Bill Cancel Reasons

3.3 Request Undo ReBill Bill Segments

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User determines not to freeze the new Bill Segments. If the undo function is used, the newly generated segment is deleted.

3.4 Delete New Segments and Return Original Bill Segments to Frozen

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CC&B

Description: CC&B deletes the newly generated segment and returns the original Bill Segment to frozen. There is no impact to Financial Transactions.

3.5 Request Cancel Frozen Segments

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: The Bill Segments may need to be canceled and not created again. The customer's balance should not be impacted by the original transaction. The CSR or Authorized User initiates the Cancel function.

Entities to Configure

- Cancel Reasons

3.6 Update Bill Segments to Pending Cancel

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CC&B

Description: When the CSR or Authorized user requests Initiate Cancel, the system updates the Bill Segment to Pending Cancel.

3.7 Request Undo Cancel Bill Segments

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User has the option to undo the pending Cancel Bill Segments. Prior to the cancellation the CSR or Authorized User determines the Bill Segments should not be canceled, and uses the Undo function.

Entities to Configure

- Cancel Reasons

3.8 Return Original Bill Segments to Frozen

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CC&B

Description: The original Bill Segments is returned to Frozen in CC&B. There is no impact to financial transactions. The Billing process could be resumed.

3.9 Request Finalize Cancel Bill Segments

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User confirms the cancellation of Bill Segments.

Entities to Configure

- Cancel Reasons

4.0 Update Bill Segments to Canceled

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CC&B

Description: The existing Bill Segments is updated to Canceled status in CC&B. If a Bill Segment is cancelled, another Financial Transaction is created to reverse the original Financial Transaction. The cancellation Financial Transaction appears on the next Bill produced for the account as a Bill correction.

Note: If the customer has Net Metering sub SA CC&B, refer to 4.2.2.15 CC&B v2.5 Manage Net Energy Metering Charges for details.

Available Algorithms

- BSFZ-EMPTY - This is a Customer Class Bill Segment freeze/cancel algorithm
- C1-RV-TRUP - FT Freeze algorithm for sub SA: Transition TUM to Reverse True Up

Business Objects

- C1-NEMTrueUpTask

Entities to Configure

- Installation Options - Bill Freeze Options
- SA Type

4.1 Request Add Bill Messages

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User may add Service Agreement related Bill Messages for a given Bill Segments. The CSR or Authorized User may also add Bill Messages at the Account Level. The CSR or Authorized User adds these Bill Messages for an online Bill.

Entities to Configure

- Bill Messages

4.2 Add Bill Messages

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CC&B

Description: The Bill Message is added in CC&B.

4.3 Request Complete Bill

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: When the CSR or Authorized User cannot find any problem with the Frozen Bill Segments he/she initiates the Complete Bill function.

4.4 Create Bill Message

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Pre-Bill Completion
- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: Bill Completion is the last and one of the most critical components of the Billing process. The system completes the Bill and it's ready for extract and print. This process could be initiated manually and automatically. CC&B makes use of Pre-Bill Completion algorithms. Based on configuration, one such algorithm can delete Bill Segments in error, create Bill messages for the deleted segments, and create a To Do entry.

Manual Process: Based on configuration, additional Bill Messages can be added.

Automated Process: (Batch billing) if required, such algorithms can:

- Delete Bill Segments in error, create Bill Messages for deleted Bill Segments, and create a To Do entry
- Delete bill certain type of Financial Transactions linked to the bill, for example, if only payments exist for newly created bill.

Available Algorithms

- DEL BSEG -This Bill pre-completion algorithm deletes Bill Segments that are in Error if: 1) the bill is not in Error, 2) the bill is being completed in batch, and 3) at least one other frozen bill segment exists that is not in Error.
- CPBC-DB - Delete Bill If FT Type Matches Given Values.
- C1-CPBC-TAXT - This customer class pre-bill completion algorithm accumulates and compares a bill's tax amount to the threshold amount and regenerates bill segments as necessary to take the threshold into consideration.
- C1-CSB-EBC - This customer class pre-bill completion algorithm This algorithm skips completion of a bill until the bill cycle schedule end date.
- C1-CHKBLELIG - This algorithm checks if all Bill Segments on the Bill are Freezable, Frozen or Cancelled. If not, return Skip Bill Completion Action.
- CPBC-DMCH - Apply De Minimis Rule (UK VAT Only).

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an "open" Bill cycle.

Entities to Configure

- To Do Type
- To Do Role
- Bill Message
- SA Type
- Customer Class
- Characteristic Type
- Bill Factor
- Service Quantity Identifier

Business Objects

- C1-AccountBillMessage - Account Bill Message
- C1-BillMessagePhysicalBO - Physical BO for Bill Message

4.5 Create Estimated Meter Read Message

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: CC&B creates an estimated read Bill message if an estimated read was used for Billing.

Available Algorithms

- BCMP-ESTBSM - This Bill Segment completion algorithm attaches a Bill Message Code to a Bill Segment that used an estimated read.
- C1-SUP-PR-BL -This Bill Completion algorithm is used for suppressing bills under certain conditions.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

Entities to Configure

- Bill Messages

4.6 Create Bill Messages Based on Configuration

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: CC&B can also automatically add - Bill Messages during Bill completion. Bill Messages come from a variety of sources:

- Account Bill Messages
- Customer Class Bill Messages
- Service Agreement related messages that are linked to Bill Segments
- Rate Schedule Bill Messages
- Service Provider Bill Messages
- Meter Reader Remark Bill Messages
- Ad hoc Messages by CSR or Authorized User
- Custom Background Processes and Algorithm Bill Messages

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

Entities to Configure

- Customer Class Bill Messages
- Rate Schedule Bill Messages
- Meter Reader Remark Bill Messages

- Account and Service Agreement Bill Messages
- Service Provider Bill Messages

4.7 Keep Credit on Excess Credit SA

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: When specifically defined, CC&B can keep any excess credit on an Excess Credit SA.

Available Algorithms

- CREDITCI-XFER - This Bill Segment completion algorithm will transfer the balance of a credit SA to other SAs linked to the account.
- C1-PYOF-DBT - This algorithm checks the input credit SA's balance. If the balance amount is a credit, it looks for all frozen payments linked to this SA. These frozen payments are used to pay-off the account's outstanding debt via payment transfer.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an "open" Bill cycle.

Entities to Configure

- SA Type
- Adjustment Type

4.8 Apply Credit to SA's

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: When specifically defined, CC&B can apply existing credit on an Excess Credit SA to other SA's. Refer to 4.3.1.1 CC&B v2.5 Manage Payments.

Available Algorithms

- CREDIT-XFER - This Bill Segment completion algorithm will transfer the balance of a credit SA to other SAs linked to the account.
- C1-PYOF-DBT - This algorithm checks the input credit SA's balance. If the balance amount is a credit, it looks for all frozen payments linked to this SA. These frozen payments are used to pay-off the account's outstanding debt via payment transfer.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an "open" Bill cycle.

Entities to Configure

- SA Type
- Adjustment Type

4.9 Add Adjustments, Payments, and Bill Corrections to Affect Bill Amount

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: During Bill Completion CC&B adds Adjustments, Payments or Bill corrections not included in the previous Bills to the newly created Bill.

Available Algorithms

- BCMP-TR - This bill completion algorithm is used to transfer receivables from a customer's sub SA to a WBFT service provider.
- TBFU XFER - This bill completion algorithm checks if there are They Bill For Us service providers linked to the master SA's on a completed bill. If it finds them: - It transfers the receivable from the customer to the TBFU service provider by calling the Transfer A/R algorithm defined on the TBFU service provider.- It marks the financial transactions for routing to the TBFU service provider. It does this by marking the FT with the billable charge download process defined on the TBFU service provider.
- C1-TRN-TUM - Transition True Up Monitor - Bill Determinants Required. This algorithm transitions any true up monitor (TUM) service tasks in the Active or Reverse True Up states associated with the master SA. The TUM is captured as a characteristic on the sub-SA.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an "open" Bill cycle.

Entities to Configure

- SA Type
- SA Relationship Type
- SA Type SA Relationship Type

5.0 Determine Due Date, Late Payment Charge Date, and Credit Review Date

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: During Bill Completion the Due Date, Late Payment Charge Date, and next Credit Review Date are determined and made available as information for the Bill and Account. CC&B accommodates calculation requirements for Late Payment Charges to be added to the Bill. Two algorithms are listed below for information only.

Available Algorithms

- BILPC-TOTAL - This algorithm type is used to calculate the late payment charge amount for a specific service agreement linked to an account.
- BILPC-SPRC - This algorithm type is used to calculate the late payment charge amount for TBFU Service Providers.
- BILPE-ALL - Eligible if debt exceeds \$5. This algorithm type is used during the late payment charge background process to determine if an account is eligible for late payment charges.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

Entities to Configure

- Late Payment Profile on SA Type
- Customer Class - Due Date, LPC Eligibility, Late Payment Charge Grace Days
- Adjustment Types
- Bill Factor
- Rates ([Various Rate Schedule Algorithms and Major Configuration Information](#))

5.1 4.3.2.5a CC&B v2.5 Manage Late Payment Charge

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: Late Payment Charges may be calculated during Bill Completion. Refer to 4.3.2.5a CC&B v2.5 Manage Late Payment Charge.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

5.2 4.3.1.1d CC&B v2.5 Manage Autopay

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: An Autopay payment may be created during Bill Completion. Refer to 4.3.1.1d CC&B v2.5 Manage Autopay.

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.
- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

5.3 4.3.2.2 CC&B v2.5 Manage Severance Process

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: The status of a Severance Process can change due to Bill Completion. Refer to 4.3.2.2 CC&B v2.5 Manage Severance Process.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

5.4 4.3.2.5 Write Off Uncollectible Receivables

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: The status of a Write Off Process or Write Off SA can change due to Bill Completion. Refer to 4.3.2.5 Write Off Uncollectible Receivables.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

5.5 Create Additional Required Bill Messages

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Post Bill Completion
- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: CC&B can perform various post Bill completion activities. Additional custom Bill Messages can be added to the specific bill.

Note: Post completion activity allows for adding various custom functionality based on business rules to impact/modify the bill overall.

Available Algorithms

- C1-CN-ADNB - This customer class post Bill completion algorithm recreates adjustments after a credit note is completed.
- C1-CR-BLRVWS - This algorithm type will create a bill review record if a bill has financial transactions with FT GL lines that reference a distribution code with an accounting method of either 'Bill Due Date' or 'Earlier of Bill Due Date and Payment Date'.

- C1-MULT-DUDT - This algorithm derives a second and third due date for a bill and captures these as bill characteristics. The second due date is only captured if the account's customer class denotes that the customer is eligible for late payment charges.
- WX-SSBNOTIFY - This algorithm sets the corresponding Self-Service Notification tasks of the account that are due for notification.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

Entities to Configure

- CSA Type
- Customer Class
- Adjustment Type
- Bill Message

5.6 Update Bill with Completion Details

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Group:

- Post Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: All Bill completion details are now updated in CC&B.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

5.7 Review Bill

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User evaluate the Account and reviews the Bill for accuracy. The Bill may not be in a Complete status. Some data may be missing or has incomplete information. At times it may be necessary to reopen the most recent Bill. Possibly a payment or adjustment was not included in the original Bill. A Bill Segment may need rebilling and changes reflected in a new Bill.

Business Objects

- WX-Bill - Bill business object (simple bill elements only)
This business object is used for simple access to bill information.
- BillRoutingR - Bill Routing Details
This business object is used on the billing history zone displayed on control central - account information.
- C1-BillLite - This business object can be used to read the fields (except CLOB) of the MO's primary table - Bill.
- CI_BillDocumentNumber - This business object is used by the bill print extract algorithm (CI_BLEX-XML) to retrieve a bill's document number and document type.

- C1-BillSegmentStatus - Bill Segment Status
This business object is used to retrieve the status of a bill segment
- WX-BillSegment - Bill Segment
This business object is used to read the details related to a bill segment.
- C1-BillSegmentRead - Bill Segment Read
- C1-BillSegmentLite - This business object can be used to read the fields (except CLOB) of the MO's primary table - Bill Segment.
- CI_BillSegmentException - This business object is used to read the exception related to a bill segment.
- CI_BillSegmentCLOB - This business object is used to read the CLOB details related to a bill segment.
- C1-BillSegmentCalcHeaders - This business object is used to read details related to a bill segment. The following is returned:
 - Bill Segment's SA ID
 - Bill ID
 - Bill Segment Period
 - Usage Period
 - Calculation Header List

5.8 Make Necessary Changes for Bill

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: During Bill Completion information may be missing or incomplete. One example is the mailing address may be missing. The CSR or Authorized User reviews and resolves the error, enters correct data, and completes the Bill as needed.

5.9 Request Reopen Bill

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: After review the CSR or Authorized User determines to reopen a Bill for the Customer's account.

6.0 Update Current Bill to Reopen

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CC&B

Description: The current Bill is reopened in CC&B and available for applicable changes.

6.1 Request Changes to Impact Balance

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CSR

Description: Based on investigation and established business rules, the CSR or Authorized User requests various changes that impact the balance. Typically these changes can be: creation of a new

Bill Segment, Rebill of a Bill Segment, Cancellation of a Bill Segment, Creation of a Payment or Adjustment, or Cancellation of a Payment or Adjustment.

6.2 Update Balance

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CC&B

Description: The financial balance is updated in CC&B.

6.3 Extract Bill for Printing or Web Display

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: CC&B

Description: Typically CC&B prepares required billing data and makes data available for the Document Management application.

Note: An additional custom process may be created to interface with the Document Management Software as needed.

Available Algorithms

- BLEX-EX - This Bill Route Type Bill extract algorithm constructs the records that contain the information that appears on a printed Bill for Documaker.
- C1-BLEX-CR - This Bill Route Type extract algorithm prepares the report information needed to create a Bill using a Reporting Engine.
- BLEX-XML - This Bill Route Type extract algorithm create XML bill extract records for Documaker.
- C1-BLEX-BIP - This Bill Route Type extract algorithm schedules report job in BI Publisher to generate Bill Reports in range.

Processes

- POSTROUT - This bill print process creates the flat file that is interfaced to document management software.
- Custom Extract Process

Business Objects

- BillRoutingR - Bill business object to read bill routing details.

Note: This BO is currently used for reprint bills.

- CI_BillDocumentNumber - This business object is used by the bill print extract algorithm (CI_BLEX-XML) to retrieve a bill's document number and document type.

6.4 Print Bill or Web Display

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: Document Management Software

Description: Document Management Software reads and process bill information produced by CC&B. It prints actual bills or prepare bills in another format (e-mail, PDF online format, short message service (SMS)).

6.5 Send Bill to Customer

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: Document Management Software

Description: The printed Bill is sent or made available for the Customer.

6.6 Receives Bill

Reference: [Manage Meter Charges Process Model - Page 2 on page 4](#) for the associated business process diagram.

Actor/Role: Customer

Description: The Customer receives the Bill.

Entities to Configure

- Bill Route Type

6.7 Select Accounts for Open Bill Cycle

Reference: [Manage Meter Charges Process Model - Page 3 on page 5](#) for the associated business process diagram.

Group: Batch Billing

Actor/Role: CC&B

Description: Using the established Bill Cycle Schedule, CC&B selects Accounts defined within a specific Open Bill Cycle. The Bill cycle's schedule controls when the system attempts to create Bills for the account. Every Bill cycle has a Bill cycle schedule that defines the dates when a cycle's accounts are to be billed. Rather than attempt to create Bills on one evening, most Bill cycles use a concept of "Window Billing" where the system attempts to produce Bills for accounts over a few nights. The first night (opening date) should be the earliest day that meter reads for the account are available in CC&B. The last night (closing date) should be the last possible day that meter reads are available for this Bill cycle window.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an "open" Bill cycle.

Entities to Configure

- Bill Cycle and Schedule
- Bill Cycle defined on Account

6.8 Check Eligibility for Batch Billing

Reference: [Manage Meter Charges Process Model - Page 3 on page 5](#) for the associated business process diagram.

Group: Batch Billing

Actor/Role: CC&B

Description: Normally, most Bills are created and completed automatically. At Billing time, CC&B attempts to produce a Bill for an account and create one or more Bill Segments for every non-cancelled / non-closed service agreement linked to the account. The Bill Cycle must be defined for the Account. The Service Agreement must be defined as eligible for Billing and met the minimum number of days defined for Billing. If defined, CC&B will not create a Bill for accounts with no Billable service agreements, no eligible Financial Transactions, and no temporary account messages.

Available Algorithms

- C1-SKIPINACC - This Customer Class Bill eligibility algorithm stops processing an account if all the following conditions are true:
 - There are no Billable service agreements.
 - There are no eligible Financial Transactions for the Bill.
 - There are no temporary account messages to be swept onto the Bill.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

Entities to Configure

- SA Type
- Customer Class

6.9 Highlight Bill Segment Exceptions

Reference: [Manage Meter Charges Process Model - Page 3 on page 5](#) for the associated business process diagram.

Group:

- Generate Bill Segment
- Freeze Bill Segment
- Batch Billing

Actor/Role: CC&B

Description: If a Bill Segment cannot be created, CC&B creates a Bill Segment in “error” status with a message can be analyzed by a CSR or Authorized User. Typically errors are caused by missing or incomplete data. The error may be reviewed at this time or not. Data may be changed before Batch Billing next runs. When the Batch Billing process next runs, it deletes all “error” Bill Segments and attempts to recreate them. It continues this throughout the Bill window. If a Bill Segments is in error at the end of the Bill window, a user must intervene and fix them. If the Bill Segments is still in error when the cycle's next window opens, a Billing error is generated.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

7.0 Highlight Bill Exceptions

Reference: [Manage Meter Charges Process Model - Page 3 on page 5](#) for the associated business process diagram.

Group:

- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: If a Bill cannot be completed, CC&B creates a Bill in “error” status with a message that is analyzed by a CSR or Authorized User. Typically errors are caused by missing or incomplete data.

Processes

- BILLING - The Bill cycle Batch processing creates Bills for accounts with an “open” Bill cycle.

7.1 Identify Bill Segments in Error Status

Reference: [Manage Meter Charges Process Model - Page 4 on page 6](#) for the associated business process diagram.

Group: TO DO Bill Segment Error Process

Actor/Role: CC&B

Description: CC&B identifies Bill Segments in error status. CC&B can create a To Do Entry for every Bill Segment in error status.

Processes

- TD-BSERR- This background process creates a To Do entry for every Bill Segment that's in error.

Entities to Configure

- To Do Role
- To Do Type

7.2 Create Bill Segment Exceptions To Do

Reference: [Manage Meter Charges Process Model - Page 4 on page 6](#) for the associated business process diagram.

Group: TO DO Bill Segment Error Process

Actor/Role: CC&B

Description: CC&B can create a To Do Entry for every Bill Segment in error status. The To Do functionality allows for online review by a user or group of users. To Do Lists summarize and total entries for different To Do Types. Status of To Do Entries is available for evaluation.

Processes

- TD-BSERR- This background process creates a To Do entry for every Bill Segment that's in error.

Entities to Configure

- To Do Role
- To Do Type

7.3 Evaluate and Investigate Error

Reference: [Manage Meter Charges Process Model - Page 4 on page 6](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User will review the Bill Segment error and supporting information in CC&B. Read History, SP/Meter History, Meter and Meter Configuration, Field Activity History, Account, Service Agreement, and Billing History are some of the areas reviewed. Typically errors are caused by missing or incomplete information. Based on established business rules, the CSR or Authorized User investigates possible solutions or workarounds for the missing or incomplete information.

7.4 Resolve Error

Reference: [Manage Meter Charges Process Model - Page 4 on page 6](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User resolves the error and enters information in CC&B.

7.5 Update Data

Reference: [Manage Meter Charges Process Model - Page 4 on page 6](#) for the associated business process diagram.

Actor/Role: CC&B

Description: Information required for resolution is updated in CC&B.

7.6 Request Complete To Do

Reference: [Manage Meter Charges Process Model - Page 4 on page 6](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User marks the To Do Entry as complete and requests completion of the To Do Entry. The CSR or Authorized User may add comments or a log entry for future reference.

7.7 Complete To Do Entry

Reference: [Manage Meter Charges Process Model - Page 4 on page 6](#) for the associated business process diagram.

Actor/Role: CC&B

Description: The To Do Entry is updated to Complete Status in CC&B.

7.8 Identify Bills in Error Status

Reference: [Manage Meter Charges Process Model - Page 4 on page 6](#) for the associated business process diagram.

Group: TO DO Bill Error Process

Actor/Role: CC&B

Description: CC&B identifies Bills in error status. CC&B can create a To Do Entry for every Bill in error status.

Processes

- TD-BIERR - This background process creates a To Do entry for every Bill that's in error.

Entities to Configure

- To Do Role
- To Do Type

7.9 Create Bill Exceptions To Do

Reference: [Manage Meter Charges Process Model - Page 4 on page 6](#) for the associated business process diagram.

Group: TO DO Bill Error Process

Actor/Role: CC&B

Description: CC&B can create a To Do Entry for every Bill in error status. The To Do functionality allows for online review by a user or group of users. To Do Lists summarize and total entries for different To Do Types. Status of To Do Entries is available for evaluation.

Processes

- TD-BIERR - This background process creates a To Do entry for every Bill that's in error.
- To Do Role
- To Do Type

8.0 Evaluate Entire Batch of Bills

Reference: [Manage Meter Charges Process Model - Page 5 on page 7](#) for the associated business process diagram.

Actor/Role: CSR

Description: The CSR or Authorized User is made aware of a possible anomaly with a particular Batch of Bills.

8.1 Identify Bill Cycle, Window Start Date or Given Bill Date

Reference: [Manage Meter Charges Process Model - Page 5 on page 7](#) for the associated business process diagram.

Group:

- Mass Cancellation Process
- Mass Reopen Process

Actor/Role: CC&B

Description: This background processes for canceling or reopening an entire batch of Bills requires identification of the Bill cycle, window start date or given Bill date. These parameters are supplied for execution of the background process.

Processes

- MASSCNCL - The mass Bill cancellation process removes an entire batch of Bills that were created by the BILLING process.
- MASSROBL - The mass Bill reopen process reopens an entire batch of Bills that were completed by the BILLING process. It will reopen all the Bills for a given Bill date for the latest run of a given Bill cycle's schedule.

8.2 Cancel Entire Batch of Bills

Reference: [Manage Meter Charges Process Model - Page 5 on page 7](#) for the associated business process diagram.

Group: Mass Cancellation Process

Actor/Role: CC&B

Description: This background process cancels all frozen Bill Segments for the latest run of a given Bill cycle's schedule, or for a given date within the Bill cycle's schedule. A cancel reason of mass cancel is used. When the cycle is billed again, new Bill Segments are created. The original Bill Segments and cancellations are not apparent to the Customer.

Processes

- MASSCNCL - The mass Bill cancellation process removes an entire batch of Bills that were created by the BILLING process.

Entities to Configure

- Cancel Reason - MASS

8.3 Reopen Entire Batch of Bills

Reference: [Manage Meter Charges Process Model - Page 5 on page 7](#) for the associated business process diagram.

Group: Mass Reopen Process

Actor/Role: CC&B

Description: This background process reopens an entire batch of Bills. All Bills for a given Bill date for the latest run of a given Bill cycle's schedule will be reopened.

Processes

- MASSROBL - The mass Bill reopen process reopens an entire batch of Bills that were completed by the BILLING process. It will reopen all the Bills for a given Bill date for the latest run of a given Bill cycle's schedule.

8.4 4.2.2.15 Manage Net Energy Metering Charges

Reference: [Manage Meter Charges Process Model - Page 5 on page 7](#) for the associated business process diagram.

Group:

- Freeze Bill Segment
- Bill Completion
- Batch Billing

Actor/Role: CC&B

Description: During Bill Completion application performs true up and extends Net Metering Services by creating new sub SA and linking it to master SA or cancels true up monitor.

During Bill Segment Creation/FT Freezing or Bill Segment Cancellation/FT Freezing application reverse true up if true up process has been already performed.

Refer to 4.2.2.15 CC&B.Manage Net Energy Metering Charges for details.

Installation Options - Control Central Alert Algorithms

The following installation options are available:

Value	Description
PP-Active	Show Count of Active Pay Plans
PP-Broken	Show Count of Broken Pay Plans
PP-Kept	Show Count of Kept Pay Plans
CC-PPDENIAL	Count Pay Plan Denial Customer Contacts
CCAL WFACCTX	Display Active WF for Account Based on Context
CCAL WFPREMX	Display Active WF for Premise Based on Context
C1_CCAL-TD	Highlight Outstanding To Do Entries
CCAL-DECL	Highlight Effective Declarations for Account and Premise
C1-CCAL-CASE	Highlight Open Cases
CCAL-FAERMSG	Highlight FA's with outstanding outgoing messages
CI_WO_BILL	Highlight Written off Bills
CI_OD-PROC	Highlight Active Overdue Processes
CI_OPN_MEVT	Highlight Open and Disputed Match Event
CI_STOPSA	Highlight Stopped SA's
C1-CCAL-CLM	Highlight Open Rebate Claims
C1_COLL-DF	Highlight Active Collection Processes
C1_COLLRF-DF	Highlight Active Collection Agency Referral
C1_PENDST-DF	Highlight Pending Start Service Agreements
C1_CASH-DF	Cash Only Account
C1_CRRT-DF	Credit Rating Alert
C1_LSSL-DF	Highlight Life Support/Sensitive Load on Person
C1_LSSLPR-DF	Highlight Life Support/Sensitive Load on Premise
C1_SEVPR-DF	Highlight Active Severance Processes
C1-CCAL-OCBG	Highlight Open Off Cycle Bill Generators
F1-SYNRQALRT	Retrieve Outstanding Sync Request
C1-PPBALERT	Prepaid Biller Task Alert

Various Rate Schedule Algorithms and Major Configuration Information

Available Algorithms

The following algorithms are available:

Value	Description
Bill Factor Rate Selection Date	
C1-BFRACCTG	Bill Factor Date based on Accounting Date
C1-BFRBEND	Bill Factor Date based on Bill Segment End Date
C1-BFRBSTRT	Bill Factor Date based on Bill Segment Start Date
Rate Component Calculation	
C1-RC-CLAMT	Sum Calc Line Amounts
C1-BACKINREV	Back Into Revenue
C1-PCTGVNTOT	Determine Percent Given Total
RCAM-CCL	Calculate CCL
RCAM-MAPDEEM	Map usage using deemed profile curve
RCAM-VAT	Apply VAT To Cross-Referenced RCs
RCCL-CVTOSC	Produce Scalar Value From Interval Curve
Rate Component Criteria Comparison	
RECC-TIMESPN	Timespan Comparison
Rate Component Criteria Field	
C1-RCE-APAY	Return True If On Autopay
RECF-SRVTY	Check If Account Has SA's With A Service Type
Rate Component Interval Pricing	
RCIPRS	Interval Pricing - Same Interval Size
Rate Component Interval Pricing Audit	
RCIPRS-ADT	Interval Pricing Audit - Same Interval Size
Rate Component Step Algorithm	
RCSTEPMULTSQ	Step Multiplier "Multiply by step by SQ"
Rate Component Time of Use (TOU) Pricing	
RCTMPS	TOU Mapping & Pricing - Same Interval Size
RCTMS	TOU Mapping Only - Same Interval Size
Rate Component Time of Use (TOU) Pricing Audit	
RCTPRS-ADT	TOU Pricing Audit - Same Interval Size

Value	Description
Rate Component Value Algorithm	
PX VALUE	Extract Average Price From Interval Prices
RCVALTHRSQS	Calc Rate Component Value - Threshold Price based on SQ
RCVL-RNDXRF	Round Cross-Reference Amount
Calculation Rule Step Multiplier Algorithm	
MULTBYKW	Multiply step by KW
Calculation Rule BO Apply Calculation Rule Algorithm	
C1-ACALR-RFG	Execute Calculation Group
C1-APPLYTO	Apply To
C1-CALC-SQ	Calculate Service Quantity
CALCFNVL	Calculate Final Reading Value
C1-FLAT-CHRG	Flat Charge
C1-ITEMTYPE	Item Type
C1-MATH	Math Rule
C1-MAXIMUM	Maximum Charge
C1-MINIMUM	Minimum Charge
C1-SIMP-SUMM	Simple Summary
C1-SQ	Service Quantity
C1-STPD-SQ	Stepped Service Quantity
C1-SUMMARY	Summary
Calculation Rule Criteria BO Apply Criteria Algorithm	
C1-ECF-APCRT	Evaluate Criteria Field - Apply Eligibility Criteria
Calculation Rule Derive Value Algorithm	
C1-CALCBLDYS	Calculate days in billing period
CI_GETMIN	Derive Minimum Amount
CI_SABAL	Calculate SA Balance
Other Algorithms Related to Rates	
C1-BSBS-RT	Create bill segment using rate application
ADJG-RT	Adjustment generation - apply rate
C1-CBPSA-RA	Apply the rate to each billing scenario
C1-RS-DTMBO	Determine Rate Schedule BO
CI_EVPRQ-APR	EV Pricing Request Apply Rate
C1-RSINFO	Rate Schedule Information

Entities to Configure

The following entities are available to configure:

- Rate Schedule
- Rate Version
- Rate Components
- Service Quantity Rules
- Register Rules
- Service Quantity Identifiers
- Unit of Measure
- Frequency
- Bill Factors
- Characteristics
- Distribution Codes
- Various Algorithm Parameters
- Define Rates on Applicable SA Types
- Meter Configuration Type
- Bill Messages
- Eligibility Rules
- Master Configuration

Related Training

The following User Productivity Kit (UPK) modules provide training related to this business process:

- Oracle Utilities UPK for Customer Care and Billing, Administrative Setup
- Oracle Utilities UPK for Customer Care and Billing, Rating and Billing
- Oracle Utilities UPK for Customer Care and Billing, Rating and Billing for Interval Data
- Oracle Utilities UPK for Customer Care and Billing, User Tasks
- Oracle Utilities UPK for Customer Care and Billing, Credit and Collections