



## **Settlement Overview**

---

**EPCOR Distribution and  
Transmission Inc.**

**Settlement Overview  
Update: September 11, 2008**

## **Overview of Load Settlement Rules**

Load Settlement is a regulated responsibility of the Wires Service Provider (WSP's) . The WSP is required enabling the creation of an hourly market between the AESO (Power Pool) and retailers.

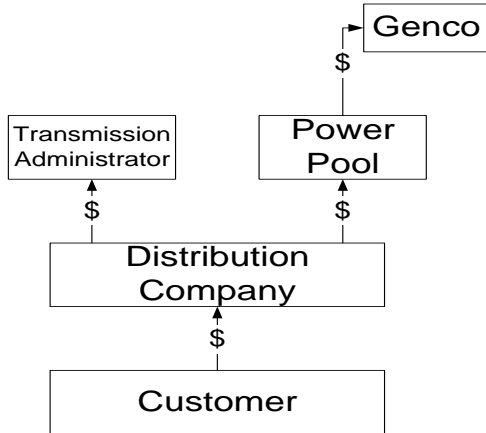
Prior to customer choice, the Power Pool sold all of the energy that it delivered at a given Point of Delivery (POD) to a single “retailer” – the regulated distribution company, and it was able to determine how much energy was sold simply by metering the POD on an hourly basis. Under customer choice, there will be multiple retailers per POD, and the only way for the AESO to determine how much energy was sold to each retailer per hour would be by installing hourly meters at every customer site in the province.

Since hourly meters (also known as “interval meters”) are expensive and are currently installed at only the largest customer sites, global interval metering is not justified. Instead, the hourly loads of sites without interval meters are estimated by the Load Settlement function. Load Settlement will employ a load profiling methodology to spread monthly meter reads (also known as “cumulative meter reads”) across hours, and a reconciliation methodology to ensure that the site load and loss estimates sum to the metered POD load in each hour.

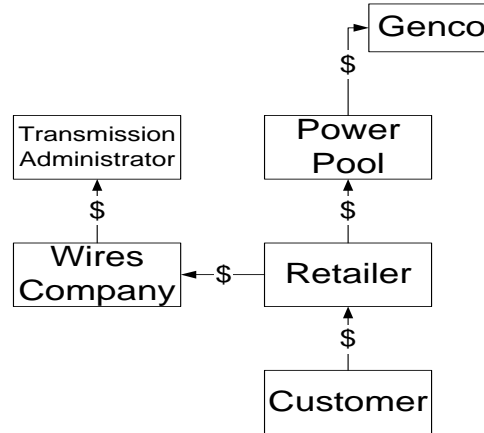
Load Settlement is also responsible for tracking customer switching between retailers (“enrollment”) and provides an hourly roll-up by retailer of settled load and distribution losses to the AESO as per the Alberta Utilities Commission (AUC) Rule #21.

# The Flow of Payments

## Old World



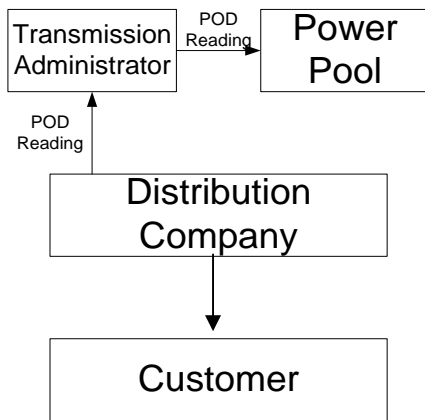
## New World



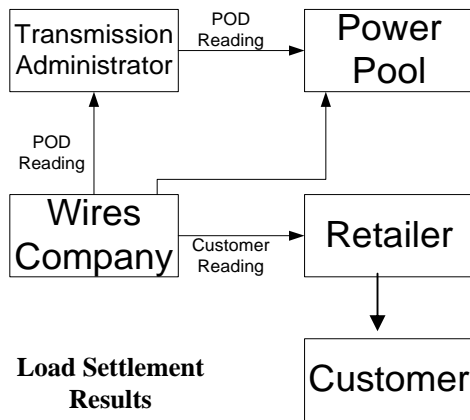
"One Bill Model"

# The Flow of Load Data to Support Bill Production

## Old World



## New World



Load Settlement  
Results



## Provincial Standards Governing Load Settlement

This section summarizes the AUC Rule #21 (Settlement System Code) that all Load Settlement Agents (LSA's) must comply with in conducting load settlement in Alberta.

In implementing load settlement, several choices are left open to WSPs. In some cases, the choices are available because the Provincial standards provide more than one option or leave decisions to WSP discretion. In other cases certain enhanced functions of a settlement system are not covered by the standards. *EPCOR Distribution and Transmission Inc. -specific settlement rules and services are indicated by Italics below.*

## Enrollment

Enrollment processing is managed by the LSA. This includes the initial creation (sign-up) of a retailer/site assignment, as well as any changes. The Retailer is responsible for obtaining authorization from the Customer. It is not the Responsibility of the LSA to verify that the retailer obtained switch authorization from the customer, although the retailer is required to do so by regulations. Enforcement of these regulations is handled by the Market Surveillance Administrator (MSA).

Customers are able to enroll (switch retailers) on a daily basis, but there is normally a 3-business day delay for processing. There are three enrollment priority settings: priority 1- enrolls as soon as possible; priority 2 - enroll anytime within the 3- business day period; priority 3 - enroll in exactly 3 business days. WSPs are only required to support priority 3 type requests. Under priority 3 - enrollments, the first enrollment received on a given business day becomes the enrolled retailer for the site three business days later, e.g. an enrollment request received on Monday becomes effective at 00:00 hrs Friday. A retailer may not request an enrollment for a date more than 3 business days hence.

Switching does not require a meter read and is assigned a deemed time of midnight. Each 24-hour day for each site is completely allocated to one retailer. Partial day switching is not allowed.

The retailer-requesting enrollment is notified whether the switch was successful, and if so, the effective date. The retailer whom the customer has switched away from is notified at the same time. Neither retailer is notified of the identity of the other.

At the time of enrollment notification, the old and the new retailer are sent a Daily Cumulative Meter Read (DCM) transaction for any read that covers the period that they were the Retailer of record. Retailers may, at their discretion, use this estimate for final/initial billing, or they may use another estimate.

The old or new retailer may request an off-cycle meter read for the day of the switch, but its timing is not guaranteed for that day.

*EPCOR Distribution and Transmission Inc. will provide off-cycle meter reads subject to the fee schedule of its Distribution and Transmission Inc. Tariff.*

## De-Enrollment

Government regulations define the "Supplier of Last Resort"(SOLR), which is a retailer that accepts customers that otherwise, cannot secure a retailer. Many of the rules and procedures surrounding transfer of customers to the SOLR are at the discretion of the individual WSP's as defined by their Terms and Conditions of service and Disconnection Policies.

*EPCOR Distribution and Transmission Inc. will accept a de-energize request from a competitive retailer only where customer authorization is indicated. However, a retailer may de-enroll (drop) a site at any time without customer authorization, in which case the site will be switched to the Supplier of Last resort 3 days after the de-enrollment request.*

## **Settlement Calculations**

**Zone definition:** Generally, each WSP is responsible for settling the sites within its service territory. A retailer can determine which Load Settlement Agent to send an enrollment request to by looking up this information in the site directories published by the LSA's. Each LSA can define a number of settlement zones (groups of POD's) for which settlement is calculated separately. Load Settlement calculates settlement zone total load as the sum of its POD loads plus any embedded net generation (distribution generation). The settlement approach is "global" in the sense that all customers will be handled in the same way regardless of whether they remain on the Regulated Rate Option, default supply or move to a new retail supplier. Direct Sales sites, which buy directly from generators and do not have a retailer, are treated as self-retailers and handled the same as any other site for Load Settlement purposes.

*EPCOR Distribution and Transmission Inc.'s service territory will be divided into 2 settlement zones. The Direct Connect Sites (connected directly to the Transmission System) will serve as a zone and the remainder of the sites will form one zone.*

**Settlement interval:** For January 1, 2001, settlement is required at one-hour intervals. New systems must be designed to accommodate 15-minute granularity to support potential future requirements.

**Deemed time-of-day** of cumulative meter reads and site energization/de-energization is at WSP discretion. EPCOR Distribution and Transmission Inc. System is designed to support an actual meter reading time however the meter read is deemed to midnight of the day the read is dated.

*EPCOR Distribution and Transmission Inc. will support actual hourly timing of cumulative meter reads and energization/de-energization for January 1, 2001.*

**Settlement timing:** For each day to be settled ("day of energy flow"), the settlement calculation is refined in four stages: initial settlement is as of 23:59 on the 3<sup>rd</sup> business day following the day of flow, initial monthly is as of 23:59 on the 7<sup>th</sup> business day following the day of flow, interim settlement is as of 23:59 of the 4<sup>th</sup> business day proceeding the last business day of the 3<sup>rd</sup> month following the month being settled, and final settlement is as of 23:59 of the 12<sup>th</sup> business day of the 7<sup>th</sup> month following the month being settled. For initial monthly, interim and final settlement, the timing rules specify a window within which settlement must be published. For initial daily settlement the results must be published by 23:59 on the 5<sup>th</sup> business day after the day of energy flow, initial monthly settlement must be published by the 10<sup>th</sup> business day after the end of the month being settled, interim settlement is to be published the business day proceeding the last business day of the 3<sup>rd</sup> month following the month being settled, and for final settlement, the publish date is the 15<sup>th</sup> business day of the 7<sup>th</sup> calendar month following the month being settled. The timing is provided to support the "month at a time" (MAAT) approach in which an entire calendar month is run at once (and completed by the latest date).

*EPCOR Distribution and Transmission Inc. will run settlement on a "MAAT" basis and will provide initial monthly, interim, and final settlement results as per above.*

**Reconciliation calculations:** For initial settlement, Load Settlement estimates the daily energy consumption of each site that is absent from an actual meter read and a load profile is applied to allocate this energy into each of the 24 hours of the day. For each hour, the settlement zone Unaccounted for Energy (UFE) is calculated as Zone Load minus the sum of interval metered + losses, deemed (unmetered) + losses and profiled site usage. UFE is then allocated to all sites in proportion to their settled loads. For initial monthly, interim and final settlement, the same procedure is followed except that cumulative meter reads are used in place of daily energy consumption estimates, with load profiles applied to the entire period between cumulative meter reads.

**Data revisions:** As default, load settlement makes use of the most recent version of data available at the time the settlement run is initiated.

**Profile freezing:** The only exception to the “most recent data version” rule concerns load profiles. Each class load profile for a given day must be frozen on its first usage in final settlement and may not be revised in subsequent final settlement runs.

*EPCOR Distribution and Transmission Inc. will implement profile freezing for initial monthly, interim and final settlement. There will be only one frozen profile in the EDMONTON zone effective July 1, 2007. The same frozen profile will be used in ALL settlement runs unless an out of tolerance error occurs a revision may be made..*

**Missing load data:** The Meter Data Manager (MDM) is responsible for filling all data values for interval meters and PODs. The LSA is responsible for providing estimates for unread cumulative meters for settlement purposes, with the estimation method at the LSA’s discretion. The “missing read estimates” used in settlement are not required to be provided to retailers routinely, but the LSA must provide enough information about the estimation process used for interim and final settlement for the retailer to reproduce the estimates.

*EPCOR Distribution and Transmission Inc. will provide retailers with the site-specific ‘missing read estimates’ data in initial monthly, interim and final settlement in the Wholesale Settlement Data transaction (WSD).  
EPCOR Distribution and Transmission Inc. will provide retailers with site-specific daily settlement results.*

**Unmetered Loads:** Consumption estimation for unmetered loads is at the discretion of the LSA. The LSA must provide estimates of unmetered loads to each retailer routinely for the retailer’s unmetered customers. EPCOR Distribution and Transmission provides these reads in a Daily Interval Metering transaction (DIM).

**Loss calculations:** Distribution loss formulas are approved by the AUC for the WSP performing settlement. The WSP may calculate losses on a customer specific basis and aggregate to the retailer level or the WSP may calculate total losses based on POD load and then allocate the losses to retailers.

*EPCOR Distribution and Transmission Inc. will use the “bottom-up” approach to calculate loss estimates. Each site will be assigned to a loss class with a defined loss formula. The loss percentages calculated by the formulas may vary hourly.*

## Load Profiling Methods

**Profiling Cap:** For January 1, 2001 WSPs must install interval meters on all customer sites with a demand of 2 MW or larger. If the WSP's current policy is to install interval meters at a lower threshold, this then becomes the profiling cap.

*EPCOR Distribution and Transmission Inc.'s policy is to install interval meters at sites with maximum monthly demand of at least 150kVA.*

**Profiling methods:** The following profile generation methods are acceptable:

1. Net System Load Shape (NSLS) profile,
2. Dynamic estimation from load research samples,
3. Any load-researched-based method that meets the accuracy standards defined in the AUC Rule #21 - Alberta Settlement System Code, and
4. deemed profiles, limited to loads described in the AUC Rule #21 - Alberta Settlement System Code

The accuracy requirement specifies in the AUC Rule #21 - Alberta Settlement System Code apply to profiling classes based on load research samples used for final settlement. The same profiling methods shall be used for Initial Monthly and Interim Settlement runs.

**Segmentation:** For January 1, 2001, WSP's may split off traditional rate classes as separate profiling classes using load research, but they may not create new profiling classes. Procedures for creating new profiling classes must be approved by the AUC, and will apply to both WSP and retailer-created profiles.

*For January 1, 2001, EPCOR Distribution and Transmission Inc. will implement the following profiling classes and methods:*

- *Under 150 kVA: system residual (net system load shape), calculated on a dynamic basis for the day being settled*
- *Unmetered Flat: flat load profile for Unmetered sites with constant load for 24 hours of each day, e.g. traffic lights*
- *Unmetered Night: night/day profile for unmetered sites operated by photocell, e.g. streetlights. For initial settlement, this profile will be generated using a proxy-day load research method using a field sample of photocells. For interim and final settlements, the sample photocell readings will be used to generate a dynamic profile.*

## Settlement Results

**Basic Power Pool invoice requirements:** LSA's are required to provide retailer-total results per settlement zone, which include a breakdown into settled load, distribution loss allocation, and UFE allocation for each hour.

*Site Specific Settlement results: EPCOR Distribution and Transmission Inc. will provide retailers with site-specific daily settlement results for initial, initial monthly, interim, and final settlement.*

**Profiles:** The profiles used in each settlement run are sent out along with the hourly settlement results. Profile values may have more than one version sent out for the same hour if profile freezing is not in effect. It is not

required to report initial monthly, interim or final profile values that haven't changed since the last report of initial monthly, interim or final profile values.

*EPCOR Distribution and Transmission Inc. will implement profile freezing for initial settlement only. This means that for a given profile class there will be only one profile for all settlement stages and this profile will only be revised after the first settlement run should the UFE out of tolerance and there is a significant impact to the market.*

*As none of EPCOR Distribution and Transmission Inc.'s profiles is generated using a static (pre-determined) method, load profiles will not be available until the time that settlement results are produced EPCOR Distribution and Transmission Inc. does not plan to provide retailers with forecasts of load profiles.*

*EPCOR Distribution and Transmission Inc. will provide retailers with sufficient information on a daily basis for them to reconstruct initial monthly, interim and final settlement. This is supported by the provision to retailers of all consumption estimates used in initial monthly, interim and final settlement on a site-specific basis, along with all site characteristics and status changes used by settlement (e.g. energization, profile class, and loss class per site).*

**Settlement Diagnostics:** LSA's are required to provide basic statistics at a settlement zone total level, including hourly total Unaccounted For-Energy (UFE) and hourly total distribution losses.

.