



Risk Management  
Commodities Trading  
Physical Logistics  
Regulatory Compliance

## Retail Power 8.0

### Support for power retail operations, demand forecasting, sales, usage measurement, allocation and balancing

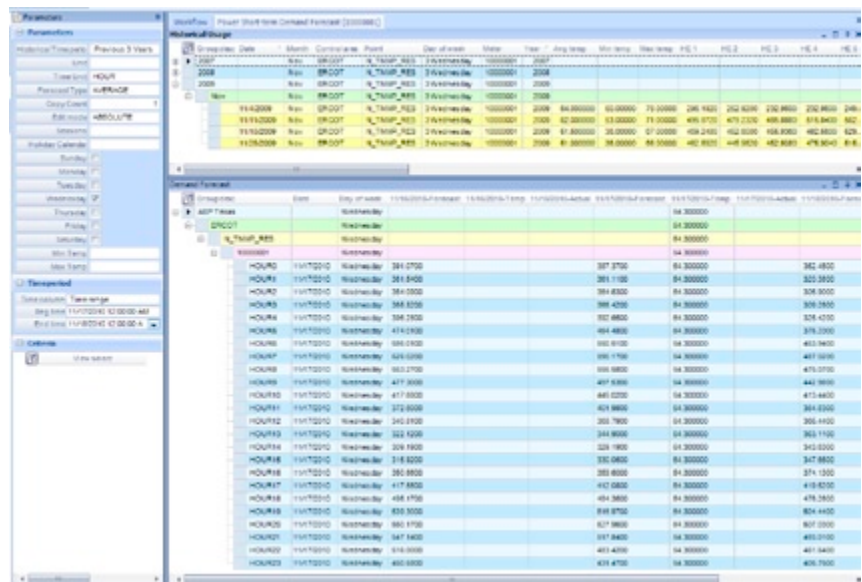
Energy companies need comprehensive software tools to achieve visibility and accurately report on historical usage, forecasted future usage, and actual volumes of commercial and industrial retail electricity.

In addition to its wholesale power capabilities, Allegro provides functionality to manage the business processes that are specific to retail power companies and load management. Allegro Retail Power allows users to rapidly and easily create and manage load forecasts for expected monthly, long-term, short-term hourly and sub-hourly commercial or industrial retail demand. The Retail Power component also facilitates automatic import of demand forecasts from third-party software or databases. With all necessary information aggregated on a single system and user-friendly views, customers gain visibility into physical power transactions and insight into future events that shape strategies to achieve the most profitable outcome.

Feature	Benefit
Uses the concept of Retail Power Points to define the scope for historical retail usage, future demand forecasts and trades that follow the demand usage patterns.	By allowing multiple meters to be assigned to a single Retail Power contract point and including counterparty information associated with each meter, multiple meter-level demand forecasts can be aggregated to form the contract-level demand forecast for a trade.
Historical meter usage can be used as a basis for future demand forecasts. Historical meter usage data may be manually entered via the user interface or uploaded via a custom Allegro connection.	The long-term and short-term demand forecasts use historical and current sources of meter and other data to provide more accurate forecasts.
Two time horizons are modeled in forecasting future demand: <ol style="list-style-type: none"> <li>Short-term load forecasting is an hourly or sub-hourly forecast for a single day, typically for day ahead operations planning such as generation scheduling.</li> <li>Long-term load forecasting consists of hourly, daily or monthly demand profiles primarily used in the planning horizon to site new generation plants for construction (or acquisition) by analyzing economic locations, plant types and unit outputs.</li> </ol>	<ul style="list-style-type: none"> <li>Two distinct time horizons provide the benefit of rapid calculation of longer term forecasts that might span multiple years while also allowing for very refined short term forecasts. For example, short-term forecast refinement can exclude certain day types in forecasting the day ahead demand or exclude temperature fluctuations that may skew historical usage patterns by excluding days whose average temperature was below a minimum threshold or above a maximum threshold.</li> <li>Forecasted demand, actual demand and hourly weather can be displayed or charted in a single view.</li> </ul>

Feature	Benefit
Long term and short term forecasts are created at a meter level and then aggregated by counterparty to form the contract point volume.	<p>The future demand forecasts can be:</p> <ol style="list-style-type: none"> <li>1. Associated with a specific trade such as a Full Requirements or Load Following trade type.</li> <li>2. Associated with a Demand Bid and uploaded to the Day Ahead market operated by an ISO.</li> <li>3. Used as input to an Economic Dispatch either via Allegro's Generation component, a third party product, or a client's proprietary Dispatch Optimization function.</li> </ol>
Historical demand usage and future demand forecasts are recorded according to standard power time increments such as hourly, half-hourly and quarter-hourly.	Historical meter usage as well as future demand forecasts can be created in any of the common power scheduling time increments used globally.
Demand Forecasts can be refined and edited by the user to reflect operating experience using simple editing tools.	Forecasts do not have to be exported to external tools to be refined by the user and then re-imported to the application. When the user is satisfied with their forecast modifications, the trade positions associated with the forecast can be updated in a single user action.
Demand forecasts are stored with a "forecast date" such that a time-based forecast history is created.	<ul style="list-style-type: none"> <li>• Many times trading organizations change their trading strategy due to market fluctuations that may have fundamentally changed their business plan assumptions. Retail Power Forecasts can be recalled from history to explain a trading strategy or a deviation from planned operation.</li> <li>• For example, a utility with generation capacity may create a long term forecast for their next operating year two months before the current year ends. This long term forecast has many assumptions about market prices for fuel and power as well as weather forecasts which impact demand for their power supply. Through the upcoming year, market prices may fluctuate, the weather patterns may be different than anticipated, etc. These dynamics force the utility to modify their business plan from what was forecasted in Q4 of the previous year. They continue to refine their future forecasts of demand which causes a change in trading strategy.</li> <li>• Another example is the unforeseen equipment outage, for reasons such as generation unit maintenance or transmission outages. Each of these contingencies may force the traders to adapt their operating strategy.</li> </ul>

**Allegro Retail Power 8.0 allows rapid forecast development with easy-to-use editing capabilities**



## Business Case

Deregulation of trade between utilities and their consumers, including high-volume industrial and commercial customers, generally has taken place at the state level, covers about half of the states, and are in various stages of progress.

One of the new players in retail electricity is the energy service provider (ESP). ESPs can aggregate the needs of many utility customers and use the economies of scale to bargain for better rates from the distribution companies. Some ESPs also provide the retail metering, billing and customer service functions as part of their bundled services.

Electric power utilities also create future load forecasts, often more than a year into the future, as part of their long term planning.

Electric industry planners initially study and predict the future time profile, or load shape, of power use. Most power users have fairly consistent daily and weekly schedules, over the course of which power demand goes up or down quite substantially. This allows planners to develop typical load profiles for days, weeks and years.

For load serving entities, the load profile represents a demand pattern for which the utility must ensure that power capacity is created or purchased to equal the highest use during the period, plus a safety margin.

Further, expansion planning, fuel budgeting, and production costing by generation asset owners require a load model or demand pattern with time ranges that span weeks, months, or even years into the future.

The expected demand patterns may be modeled by the use of typical, normalized hourly load curves for the various types of days expected in each subinterval (i.e., month or week) and are typically chronological load cycles.

To address these industry requirements, Allegro's Retail Power component allows for the rapid development of both long-term and short-term demand consumption forecasts. The component provides the capability to capture historical demand usage along with associated weather parameters such as daily minimum and maximum temperatures that can be used to enhance the accuracy of future demand forecasts. The Retail Power component can be used to forecast monthly demand, long-term energy demand, short term hourly and sub-hourly loads and dynamic load profiles. Physical power deals are fully supported, and when combined with aggregated load and ancillary service obligations, provide position reporting.

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