New York ISO
Price Responsive Load Working Group Proposal
Submitted By Retx.com
September 21, 2000

<u>INTRODUCTION</u>

Retx.com, a business-to-business Internet company, presents this proposal to the price responsive load working group. The Retx program is designed to serve as a crucial link between the ISO and the Load Serving Entities (LSEs) and their customers. It will provide real time price signals to participating LSEs and their customers and verify load response. Retx.com can provide the complete platform to support a variety of specific load responsive programs. A significant feature of the Retx.com program is that LSEs fulfill a crucial customer service role, thereby enhancing market opportunities and reaching a broad base of customers. Retx.com recommends a pilot program to test and verify the working groups plan before next summer. While we expect to participate in the development of the details of the program (such as pricing, eligibility, etc), one thing is clear – to maximize benefits, a market based load responsive program must incorporate real time data flow, including price signals, consumption, and in addition, a credible program must provide virtually real time verification of price response. Retx.com can effectively support such a program. Furthermore, the Retx.com program offers the flexibility that can support program evolution over the course of the period.

In this proposal, we do not explore the particular barriers to a price responsive load program. However, the fundamental institutional requirement is a system by which an LSE and its customers can sell back scheduled load to the ISO on a real time price basis. Retx.com will provide the system to do that, but the ISO and the rules developed by the New York Public Service Commission must allow participating customers/LSEs to respond to price by selling previously scheduled power.

<u>About Retx.com</u>

Retx.com is a business-to-business Internet company, which provides transaction infrastructure and value added services to the retail energy industry. Through our innovative outsourced solutions, we enable the goals of the policymakers in energy deregulation to be achieved, lower barriers to entry by new market participants, enable our retail energy clients to profitably serve end use customers and unlock the untapped value of the retail energy industry to our clients and their end use customers.
Our business model is to use each of the applications, which we provide, to build a collaborative e-business community for the benefit of all the stakeholders in the community (See figure 1). By delivering these applications as a service over the Internet we avoid the redundancy, risk and capital cost that would be required if each of the market participants were to build the applications separately. Each application, which we provide, helps us reduce the overall cost to the market participants, provides for a tighter integration between the participants and allows market forces to drive new applications to benefit the market.

Figure 1

The applications Retx.com currently provides are broadly grouped into two categories, Customer Choice Manager and Load Management Dispatcher. Customer Choice Manager (CCM) involves the back office applications to serve the retail energy market such as EDI translation and processing, customer enrollments, meter data transaction processing, reconciliation, settlements and bill calculation and processing for both the
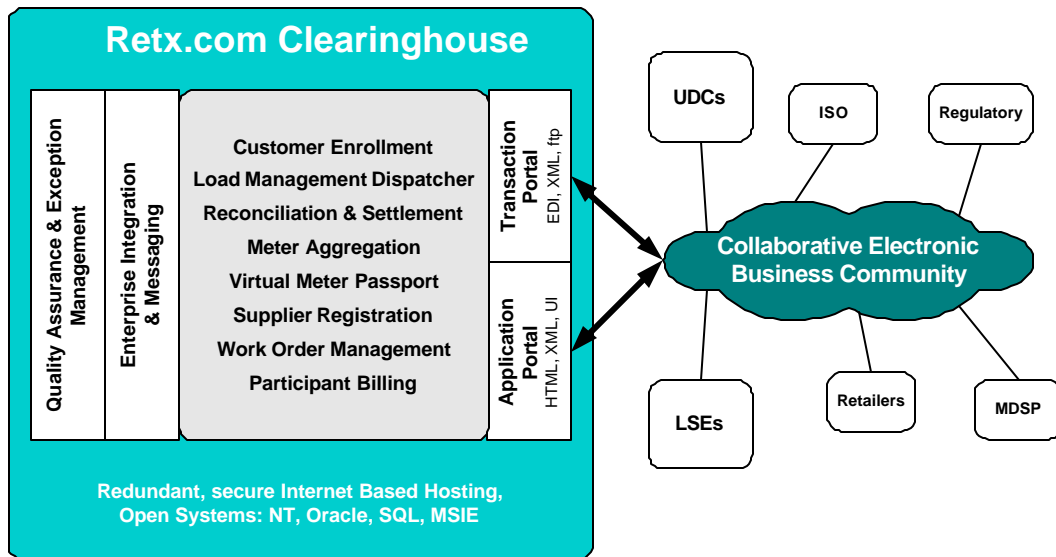
LDC and ESCOs. These applications can be provided in an unbundled fashion or in a bundled fashion as a vertical transaction hub to serve multiple market participants thereby driving down the costs to all the stakeholders. The Retx Load Management Dispatcher (LMD) is essentially a transaction clearinghouse for curtailable MW transactions. In it's simplest sense LMD does for the individual curtailable load what Charles Schwab did to bring low cost mutual fund and stock trading to the individual investor.

Figure 2 – Retx LMD
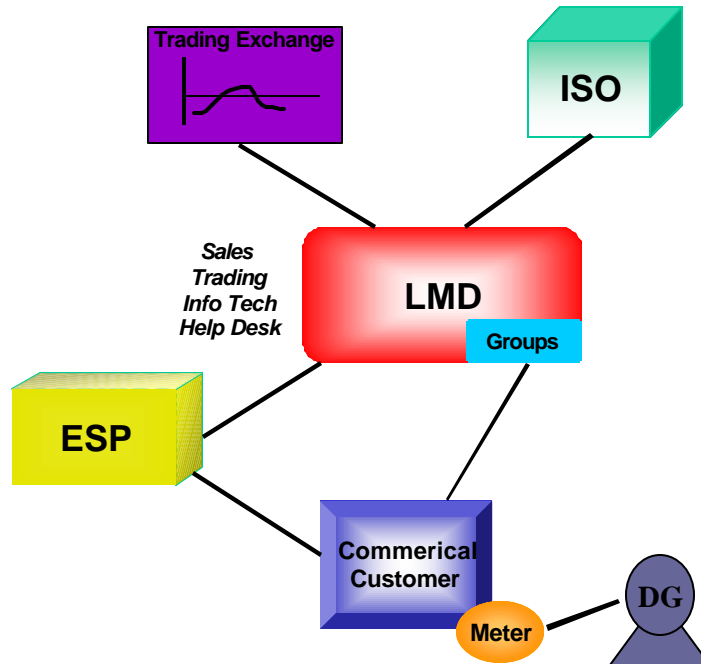
Proposal

Parties agreed to submit proposals by September 22nd that were targeted at one or more of the following categories:

Main Categories
1. Emergency Measures (Active Load Management (ALM) programs)
2. Economic Measures (Price responsive load initiatives)
3. Technology Measures (Overcoming price/technology barriers, esp. w/r metering)

We believe that LMD addresses each of the aforementioned categories and that its current deployment elsewhere demonstrates these capabilities.

Emergency Measures – Retx has submitted a proposal to New England ISO to implement an ALM pilot program beginning on October 1st. The ISO will be able to dispatch specific load based upon its capacity requirements. It is anticipated that this program will be in place to demonstrate at the joint ISO meeting scheduled in Hartford on October 16th.

Economic Measures - LMD is currently operating through a LSE in the Illinois market. APX provides forward-looking price signals. The LSE and the end use customer essentially set a limit order in LMD for dispatching the customer's load based upon the customer's marginal costs of production. When the economic dispatch point is reached,

LMD notifies all parties in real time over the Internet. LMD has the specific contract terms between the LSE and the end use customer configured into the system. LMD also has the customer's end use load profile and streams in near real time metering over the Internet. The LSE and customer can watch the customer's curtailment performance in near real time over the Internet. LMD notifies the LSE trading desk of the incremental energy to be traded and does a customer-by-customer settlement calculation available to the LSE and customer on a next day basis.

Technology Measures
Near real time metering is required for LMD to work most effectively. It is our experience that giving the LSE, ISO and end use customer near real time feedback on performance and economics is very important. LMD can be readily interfaced with most energy management systems like Johnson Controls, Honeywell and Andover. It can also interface with most dial up metering products and data recorders. Our preferred solution is direct interface to the building energy management system or a data recorder that has an IP address that can run directly on the end use customer's local area network to bring meter data back over the Internet. It is our understanding that for settlement purposes the LDC and ISO will require metering data directly from the LDC which will delay settlement by a month or more. While we would like to see alternatives considered we will work with whatever metering solutions are generally accepted by the State of New York.

In the market-based mode of operation for LMD we require a forward price signal and a liquid market for the LSE to trade the incremental energy. For a pilot we believe the current price signals from the ISO will be adequate. In the future we anticipate integrating multiple price feeds into the system to allow the LSE more options and greater flexibility.

We believe that with LMD in place the State of New York will have made an investment in the enabling technology to not only address price sensitive load, reduce price volatility, and bring additional capacity to NY from customer curtailment but also create an environment in which we provide strong incentives to the distributed generation market to innovate and to bring new, clean distributed generation to the state of New York.

Much of the discussion at the working group meeting involved policy issues regarding "capacity based" or "market based" load curtailment programs. LMD offers the transaction infrastructure to implement programs of either broad type individually or simultaneously. LMD also offers the flexibility to change the "product" offerings by either the ISO or the LSE on almost an immediate basis. Finally with the dynamic group curtailment feature of the system the ISO or LSE can "drive" the system differently depending upon market conditions or the time of the year. For example, MWs behind LMD can be configured to respond to specific energy price or capacity signals during the summer and reconfigured to respond to localized transmission problems in the spring and fall during scheduled power plant downtime for maintenance. In this way several parties can use the same flexible and low cost infrastructure in a secure way to build an incredibly valuable resource for the State of New York. LMD is a true Internet application. There is little or no software for the market participants to build or buy,

thereby lowering the cost and risk of implementation. Retx can have LMD functional in NY in a matter of weeks once commitment is made.

PILOT PROGRAM

In order to meet the objective the PSC has to implement 200 to 500 MW of curtailable load in Manhattan by next summer, Retx.com recommends a pilot project to achieve the following objectives:

- Demonstrate that price signals can be sent to customers over the Internet reliably

- Demonstrate that customers can respond over the system by changing load or starting or increasing onsite generation due to price signals or interruption notice from NYISO

- Establish that NYISO can verify customer load change by customer, by group, and by load

- Show that project can be scaleable and implementation issues can be quantified

- Demonstrate and provide cash flows to customers based upon real time benefit

EXPLANATION OF PILOT PROGRAM

Retx.com will support the price responsive load pilot program by providing Load Management Dispatcher (LMD), an e-business tool that identifies market-based load management opportunities and gives the New York ISO the ability to request targeted load curtailment based on system needs. The pilot project will run from November 1, 2000 to April 30, 2001 for 20-30 MWs.

LMD will track market prices from NYISO and/or other mutually agreed upon market index and notify the ISO/LSE when load management opportunities become available in the market. Load Management Dispatcher will collect end-use customer usage data. In order to do this, a meter data recorder may need to be installed at the customer's site. If the customer is connected to the system via an Ethernet connection energy usage data will be refreshed every 15 minutes or based on the pulse frequency. If the end-use customer is connected via a telephone line, the meter data recorder will dial out to a local ISP connection based on user defined requirements and telephone capabilities.

The ISO/LSE will have access to, and the ability to re-format, add, delete and edit, its end-use customer data collected by LMD. The database management software utilized by Retx will allow the ISO/LSE account information such as customer contacts, customer contract data, customer curtailment plan, genset KW and operational costs, curtailment performance, take out point, and many other useful pieces of information. This information will be accessed on secure, password protected website.

LMD will integrate the customer usage information and correlate it with the market price signal to identify potential curtailment opportunities. The system will notify the

ISO/LSE of the opportunity and estimate the curtailment amount (based on historical load profiles, the ISO/LSE's load forecast and/or direct genset metering, as agreed from time to time by Retx and the ISO/LSE). The ISO/LSE will be responsible for communicating with its end-use customer (or directing Retx to communicate with its end-use customer) regarding curtailment opportunities. The ISO/LSE and the customer will retain the final decision making authority to curtail. The ISO/LSE will retain the final decision making authority regarding the amount of curtailment supply to sell into the wholesale market.

If the LSE and/or the NYISO opt for a curtailment opportunity identified by LMD, it can communicate the curtailment notice to the customer by clicking a notification button on the Retx.com site. The system will notify the customer according to its requested notification method (i.e., e-mail, fax, pager, etc.). The end-use customer will then log on to the site and acknowledge its acceptance or rejection of the notification by clicking the appropriate button. If the customer does not acknowledge the notification within a time interval identified by the ISO/LSE, the system will alarm out so that the ISO/LSE can call the customer directly. With the ISO/LSE's permission, the customer will be shown the estimated market price (actual price will be posted after the transaction clears in the wholesale market and the system is updated).

Once the customer acknowledges the notification, the system will track the customer's curtailment performance based on its forecasted baseline. If the customer's performance deviates from its anticipated performance based on the ISO/LSE's defined deviation band, the system will alarm out to the ISO/LSE so that the ISO/LSE can determine if the trade amount should be adjusted.

LMD will provide customer specific hourly performance data that is matched up with the hourly market clearing price. This information, along with the customer's sharing arrangement, will allow the LSE and ISO to properly credit each customer.

LMD also provides the customer with the ability to view its energy usage. The customer can create cost centers, aggregation levels, and/or track its curtailment performance to date. The customer can access this information via Retx's password protected website. The customer will not have access to its account information. The ISO/LSE may choose to charge the customer for this service.

The system will allow the ISO/LSE to upload customer forecasted hourly interval data and send an alarm if the actual usage deviates from the forecast based on the ISO/LSE's defined deadband. This will allow the ISO/LSE to mitigate energy imbalance penalties by adjusting supply amounts and schedules as needed.

CONCLUSION

The Retx.com proposal can accommodate any number of pricing, eligibility, time block and other program parameters. It is a dynamic market tool that provides the essential data and verification links needed for a credible price responsive load program. Adopting the Retx.com program will drive down the cost of participation for all program

participants and enable timely implementation to meet New York's needs by next summer.

APENDIX A

SERVICES

Internet Access Service	Retx will make a non-public network, 1.54 Mbps Internet connection available to the ISO/LSE, and will host one or more sites on its server and/or the server maintained by its third-party software provider for use by the ISO/LSE and its customers in connection with the Services.
Meter Data Recorder Installation Service	If requested by the ISO/LSE, Retx will oversee market meter/meter data recorder installations Manage/perform site surveys to identify meter/meter data recorder installation costs. Provide the ISO/LSE with installation cost estimates Manage meter/meter data recorder installation vendors Coordinate installation with end user Communicate installation schedule to the ISO/LSE, end user and installers Maintain installation records
Training Services	Provide one (1) training session on the use of the Services in Albany, NY for the ISO/LSE employees and any consultants of the parties.
Basic Load Curtailment Service Features	Acquire real time load data over the Internet with a meter data recorder and update every 15 minutes during curtailment and every six hours throughout the rest of the year. (other acquisition and update frequencies are available) Validate load data. Send curtailment notification alarms, faxes, e-mails or pages to the ISO/LSE with respect to individual customers or pre defined customer groups. Monitor load-shedding performance by individual customers and customer groups in 15 min. time intervals during curtailment. Create curtailment performance graphs for individual customers and pre-defined customer groups. Store 24-rolling month historical data for each customer. Display customer load data in HTML format for export to Excel. Develop customer specific settlement calculations (60 day lag time).
Basic Energy Information Service	Load data acquisition 15-min. interval data and six- hour updates. Demand graphs by account group, account, cost center and meter. Display customer load data in HTML format for export to Excel. Store 24 rolling month historical data for each meter point.
Market Prices	Market prices will be acquired from the ISO New York and/or other mutually agreed upon market index and posted on Retx's site, as allowed by ISO New York.