

**Improve Productivity / Increase Customer Value****Retail Energy Services Deliver Competitive Advantage**

A new comprehensive menu of Retail Applications Services is putting EPRI technology and expertise to work in solving the competitive challenges of today's energy companies. From maximizing utilization of power system assets to offering more effective value-added products, the new services are geared to helping EPRI customers compete and win in the new energy marketplace.

Most of the retail services are offered through EPRI's new for-profit subsidiary, EPRI Solutions, Inc., launched at the start of the year. The subsidiary will hasten the application of EPRI technologies and expertise already developed through decades of collaborative research.



*Put technology and market knowledge to work for you with EPRI retail energy services.*

"The door is now open for us to offer customized technology application and marketing services on a transactional and proprietary basis," says EPRI's Gary Geschwind, Manager, Retail Business Segment. "We've designed these services to support our customers' key business objectives and enable them to gain competitive advantage."

**Retail Service Areas**

EPRI delivers retail applications services through four Service Areas:

**Asset Planning** services enhance your ability to cost-effectively provide commodity-based services to the energy industry. You can profit from EPRI's asset and risk management expertise and unique forward price forecasting methodology. For a company with a 5000 MW peak, for example, improving the accuracy of valuing future power deliveries by \$1/MWh has a present value of \$250 million.

**Asset Management & Optimization** strategies help you maximize profitability by targeting particular regions for strategic load growth or load curtailment programs. These services have paid for themselves in as little as seven months.

**Customer Service & Operations** activities focus on end-use customers and on offering them services that address their energy-related business needs such as power quality, customer care and satisfaction, and pricing/risk analysis. EPRI power quality services have helped energy companies save their customers many

thousands of dollars.

**Customer Choice** services enable you to gain insights into customer purchasing behavior and offer value-added products and services beyond traditional energy sales that make your brand stand out. EPRI studies show these value-added services can influence a customer's choice of energy supplier.

To support these service areas, EPRI's Retail Applications Network—a unified set of centers and offices around the country—offers unbiased expertise on advanced technologies and market-based knowledge that spans nearly all customer sectors.

"For nearly three decades EPRI has led the industry in the development and application of new technology and energy market intelligence," says EPRI's Rob Wilhite, Service Line Leader for Retail Applications. "No other organization can match the breadth of technical and market expertise we will bring to bear on our customers' business challenges."

**Return the Fax-back to Learn More**

*For more information, please return the enclosed fax form or contact your EPRI Regional Manager.*

**Improve Customer Relations / Offer New Services****Curing Power Quality Problems Improves Patient Care and Builds Healthy Customer Relationships**

Equipment malfunctions can cause problems for any commercial or industrial facility. But when the equipment is used in the treatment of cancer patients, malfunctions can be life-threatening.

"Our mission is to fight cancer and prolong human life—we just can't tolerate equipment failures," says Robert Cowan, director of facilities at the world-renowned Fred Hutchinson Cancer Research Center in Seattle. So when an electron microscope and other sophisticated equipment at the center began malfunctioning, Cowan quickly sought to identify

the source of the problems and find solutions.

Identifying the source seemed easy. "Our first response was to blame our service provider for not giving us good clean power," says Cowan. Yet a check by Seattle City Light showed the center was receiving normal power, a finding that didn't satisfy Cowan and facilities engineers or solve their problem.

**Power Quality Investigation**

To improve a relationship that was turning acrimonious, Seattle City Light's David Docter recommended and sponsored an independent investigation by power quality experts from



EPRI PEAC Corporation. A call from Docter brought EPRI PEAC's Philip Keebler and Kermit Phipps to Seattle to conduct a power quality audit of the facility's internal power distribution system. The audit included a thorough inspection of the building's electrical system, troubleshooting of equipment, and analysis of monitored power quality data. The audit identified several sources of power quality issues, including wiring and grounding problems, and uninterruptible power supplies (UPS) that were incompatible with medical equipment. Keebler recommended a range of corrective actions and worked closely with engineers from Seattle City Light and Fred Hutchinson to implement solutions.

"Once we had EPRI on board we were able to research power quality issues from transformer to the end-use point and determine what the sources of our problems were," says Cowan. "The project raised our awareness that power quality problems can stem from a multitude of sources, from plugging incompatible equipment into the same circuit to not having the right electrical design. EPRI helped us identify the sources of our problems and gave us a roadmap for solving them."

"EPRI delivered solutions to us and to a very important customer," says Docter. "They didn't just conduct an investigation, write up the findings, and turn in a report that would sit on a shelf." To share the lessons learned, Seattle City Light involved EPRI PEAC in two regionwide conferences on power quality for more than 100 healthcare engineers.

#### Partnerships Pay Off

The project also transformed the relationship between Seattle City Light and the Fred Hutchinson Cancer Research Center. Says Cowan, "It went from a confrontational relationship between us and the service provider to a partnership where they helped us solve our problems."

Such partnerships are essential in addressing power quality issues in the healthcare industry, says Docter. "The increasing use of highly sensitive medical equipment is causing more and more power quality issues in healthcare facilities. Solving them will require medical facilities, utilities, and organizations like EPRI's Healthcare Initiative and PEAC Corporation working together to the benefit of all—especially the patients whose lives depend on this equipment."

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#### Promote Economic Development / Increase Sales

### Controlled Environment Lettuce Facility Gets a Head Start on the Competition

Farmers typically harvest lettuce crops just twice a year, but a unique Controlled Environment Agriculture (CEA) pilot facility in Ithaca, New York is now producing 1,000 heads of fresh, pesticide-free, high-quality leaf lettuce every day, even in winter.

For small farmers, CEA offers potential for profitable alternative agricultural opportunities to help fend off increasing competition from larger operators. For energy companies, CEA enables assets to be used more efficiently because much of the facility's power consumption occurs during off-peak hours.

The Ithaca CEA facility began operation in July after years of research. It uses software-controlled lighting, nutrient balance, and other parameters to create optimal lettuce-growing conditions. And because the facility employs hydroponics, where the plants grow in water, lettuce output isn't dependent on soil conditions. The facility's sponsors include Agway Inc., EPRI, New York State Electric & Gas, (NYSEG), Niagara Mohawk, and New York State Energy Research and Development Authority.

#### Economic & Environmental Benefits

"CEA can provide economic development by giving farmers the opportunity to grow in the winter, when a regular harvest isn't available. This can represent a new industry in areas where farming is very seasonal," says Myron Jones, EPRI manager of food and agriculture programs. "CEA also offers environmental benefits compared to traditional outdoor farming. It consumes fewer natural resources, including water, produces less waste, and uses no herbicides or pesticides."

Results of the CEA facility's operation to date have exceeded expectations, according to Dick Peterson, manager of agricultural marketing at NYSEG. "The quality of the lettuce is outstanding—it's uniform in size and weight—and it's getting good acceptance in the marketplace," he said. "It's also important to note that this lettuce always can be provided fresh, because it's usually harvested and placed in stores within 24 hours. By the time field-grown lettuce is harvested and transported to stores, it's often several days old."

Currently, the Wegmans grocery chain in New York is selling the lettuce to customers.



CEA produces perfect lettuce, year 'round, opening competitive opportunities for small farmers.

The ability to offer fresh produce near the production site benefits consumers, as long-distance transportation can result in a significant loss in quality.

NYSEG's Peterson added that in the long term, production of a uniform product with a guaranteed delivery schedule would eliminate price fluctuations currently caused when weather and other conditions affect crop output and transportation. This, in turn, would allow crops to stabilize at an appropriate market price.

CEA represents the fastest-growing sector in the agriculture industry. The next crop under consideration for CEA growth is spinach, with an estimated three years needed to develop the necessary protocols to start production.

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