

Three Months on the Job...

Energy Manager Saves MTA \$63,000 – With More to Come

By BILL HEARD, Editor

(Nov. 2, 2001) Ernest Morales, the MTA's new energy manager, has only been on the job for three months, but he's already figured out how to save the agency \$63,000 a year on electricity. And, that was with just the stoke of a pen.



Not long after joining the MTA's Quality Assurance Department, Morales began field-checking the outdoor lighting at stations and parking lots along the Metro Green Line. He discovered that six were eligible for lower, outdoor lighting electrical rates.

Energy Manager Ernest Morales, left, talks with his boss. "I think finding Ernie was of great benefit to the MTA," says Quality Assurance Superintendent Mike Stange. "Based on his experience with Edison, he could see where the MTA could save enormous amounts of money. He's quickly proving we can do that." PHOTOS BY BILL HEARD

[See Profile: Ernest Morales](#)

Morales signed a request and, as of Nov. 1, Southern California Edison reduced its electric rate for those facilities by 30 to 50 percent.

That was easy pickings – "low-hanging fruit" – as Morales puts it, in what will be a long-term and complicated effort to reduce the MTA's annual expenditures for electricity, natural gas and diesel fuel.

"We're trying to understand how the MTA uses energy, how much energy we use and where the big facilities are that use this energy," says Morales, a former SoCal Edison engineer with 23 years' experience in energy programs. "Then, we'll look at ways to lower those costs."



\$45 million annual utility bill

With an annual energy bill of about \$45 million, lowering costs was one of the primary goals the MTA had in mind when the energy manager's position was created, according to Gary Spivack, deputy executive officer, Operations Administrative Support.

"We wanted someone who knew the power companies, understood utility rates and knew how to manage energy costs within the utility pricing program," he says.

Spivack expects the MTA will benefit from better gas and electricity rates within the next two years. He believes it will take three to five years for the agency to feel the full effect of savings from all the energy manager's conservation activities.

Morales' background gives him special insight into how utilities work, how their rates are structured and how – perhaps by making slight changes in the way it operates – the agency can achieve significant savings on energy.

An example could be the use of natural gas. While rates for electricity rise during peak periods of the day, the price of a “therm” of natural gas remains steady. Finding ways to power certain equipment, such as on-site generators, by natural gas could save money during peak periods when electricity is high.

“A mix, a balanced use of natural gas with electricity allows you to use the energy at its most economical times,” Morales says.



Something as simple as skylights

Another example might be waiting until off-peak times to perform such high-energy functions as fueling or washing buses, where the tempo of operations permits. Even something as simple as installing skylights in maintenance buildings can reduce reliance on electric lighting.

Over the months to come, Morales will visit many of the operating divisions, rail facilities and field offices to assess their energy usage. He'll look at the types of energy being used, how it's used, and when, and whether there are more efficient ways to do the same work with less energy.

After that, he'll draw up recommendations for energy savings. He'll avoid a “cookie-cutter” approach to achieving energy savings because operations can vary from one division or field office to another.

“I don't want people to think we're going to turn off their lights or prevent them from doing the things they need to do,” he says. “The intent of the program is to understand how the MTA uses energy, put together a plan to manage that energy and lower the cost to the agency.”

In managing the MTA's energy conservation program, Morales will draw on his background in energy planning and distribution, and his experience in developing charging stations for electric vehicles.



Co-generation of power

He plans to develop long-term energy conservation strategies that might include the use of microturbines – small electricity generators that could be placed at an operating division. The agency might achieve savings by co-generating energy or by using self-contained electric generating equipment.

“Once we identify which facilities we're going to focus on first,” he says, “we'll match the technology to make those buildings energy-efficient buildings.”

Morales also wants to develop a computer system that would track each MTA facility and the type and amount of energy each uses. It would be a tool management could use in budgeting energy expenditures.

And, while saving money is essential, Morales also thinks it's important to encourage the movement toward renewable energy. The LA Department of Water and Power's “Green Power” program, for example, produces power from wind, water and thermal sources.

“It costs a little more,” he says, “but it's the right thing to do. And, as more ‘green energy’ comes on line, the price should drop.”

Profile: Ernest Morales

Experience:

Consulting engineer, January 2000 – March 2001, SoCal Edison, California Energy Commission, development of infrastructure for alternative fuel vehicles.

SoCal Edison, 1977 – 1999, manager, engineer, service planner in many areas of utility operations, engineering and energy conservation.

Southern California Association of Governments, 1974 – 1977, transportation planner.

Education: M.S., Civil Engineering, Massachusetts Institute of Technology; M.A., Urban Planning, UCLA; B.A., Architecture, Cal Poly, San Luis Obispo.

Personal: Age 58, born Mexicali, Mexico.

Family: Wife, Linda, and children, Raquel and Paul.

Interests: RVing, fishing and boating.

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