

fort in the knowledge that he lived his life well and helped countless others along the way," eulogized Police Chief William Bratton. "Kenny Garner used his gifts and talents to enlighten and enrich the lives of his community."

Please see the story on page 15 for more details on his life and career.



City Employees Club of Los Angeles 311 S. Spring St., Suite 1300 Los Angeles, CA 90013

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first convention center of its size and age in the United States,

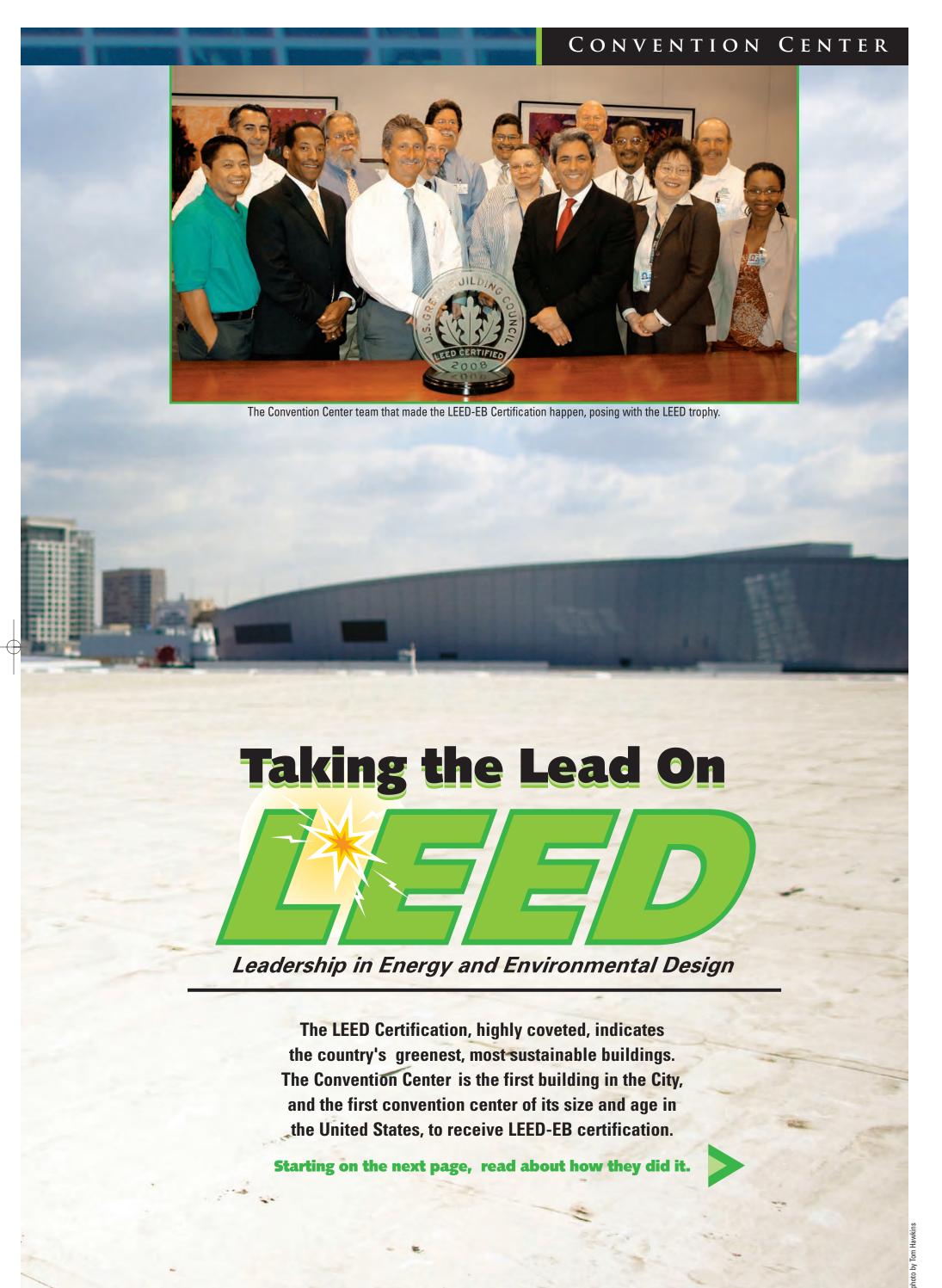
to receive LEED-EB certification. Read about how they did it.

See page 6.



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# Taking the Lead On *LEED*

# > SUCCESS, THE ALIVE! INTERVIEW SUSTAINED



The Convention Center is the first building in the City, and the first convention center of its size and age in the United States, to receive LEED-EB certification.

On March 12, Club CEO John Hawkins and Alive! editor John Burnes met with Rey Castro, Chief Building Engineer, Convention Center, to talk about the ways he and his crew made the Convention Center a greener, more sustainable building.

Alive! photos by Tom Hawkins

**Alive!:** Thanks for taking us on the tour. **Rey Castro:** Sure thing!

How long have you worked for the City?

**Rey:** Going on 20 years. I first started at City Hall, in General Services, and I worked up the ladder. Before I started, we had only two Chief Building Engineers in the entire City. I'm now the third.

We came to L.A. when I was a little kid, about five or six. I used to play downtown, when City Hall was the tallest building.

# **What LEED Is**

# $\label{prop:eq:explain} \textbf{Explain what LEED means. What is the award for? }$

**Rey:** LEED-EB stands for Leadership in Energy and in Environment Design for Existing Buildings. That's where the EB comes from. Basically it is a grading scale or guide for your building to abide by and to encourage other facilities to do the same.

LEED addresses five categories: Energy and Atmosphere, Water Efficiency, Material Resources, Indoor Environmental Quality and Sustainable Site, which is your hardscape, the exterior. They don't want you just running water off for no reason. There's a certain amount of irrigation that you get credit for as well. You can control your water use in a hardscape.

There's a certain baseline that you have to meet. Each category carries a certain amount of prerequisites.

# What did you submit?

**Rey:** Basically, we submitted policies that we implemented. (See sidebar, "Executive Summary.")

Sometimes people think that being LEED Certified means meeting the criteria of energy efficiencies, meaning you have to save a certain amount of power usage that you're using today compared to what you used to use maybe in years prior. I thought we were going to score big points in that one. However, convention centers are not governed by the EPA, which takes surveys of buildings and studies how much power they use. We're like a hotel that uses occupancy levels to determine how well business is going. We don't measure our success by energy levels. We couldn't prove our energy usage, so we were able to comply with the prerequisite only and not get any points or awards for that.

But we did well in other categories. In the recycling area, there's a maximum of 16 credits you can achieve. We got 14 out of those 16. We really excelled because we recycle like no tomorrow here.

Convention Center Chief Building Engineer Rey Castro (right) explains a point about LEED-EB certification to Club CEO John Hawkins.



### www.cityemployeesclub.com

Rey Castro shows his dog-eared copy of the LEED Certification manual that guided his team's efforts.

### **The Process**

### How did you get started in achieving this?

**Rey:** I have to give the credit to my General Manager, Pouria Abbassi. It was his vision, his idea to go after it. It was an awesome idea.

# And he supported you in getting you what you needed to get it done?

**Rey:** He supported us immensely. There wasn't anything he wouldn't do to make sure that this happened.

# There was a mandate from the mayor, too, with Directive 10.

**Rey:** Right, but we had already started it before that came out.

# How long was the process from beginning to certification?

Rey: It took about 18 months.

# Was the process all recognizing things that you had already done, or did you make changes in those 18 months?

**Rey:** Some of it we were already doing, but other things we had to implement. For example, they award you a credit if you have a bicycle program, bicycle racks for employees and a shower in proximity to those racks. We developed a policy. We wrote it up according to the U.S. Green Building Guidelines. We submitted it and we got awarded a credit for that.

### How big a job was the LEED process? Did it take up a huge amount of your time?

**Rey:** It was one of the hardest projects I've ever dealt with before, ever. This was like no other project because of the challenge involved and because we've never done it before.

It was a very challenging project. Again, my General Manager was pushing me to get it done as soon as we could. It's a process, not a black and white thing. The heat was on. But this was a team effort.

# All within the Convention Center, right?

**Rey:** Right, only Convention Center personnel. I had administrative analysts, senior management, my superintendent, assistant superintendents, the electrical supervisor, the plumbing supervisor. We have a resident architect here who helped us with a lot of the CAD drawings, a lot of the plans that we had to submit.

We did hire a LEED consultant who got us going. They guided us and put us on track. It was up to us to complete the reports and to develop the policies and implement them. Whatever it took.

# CONVENTION CENTER





# [The LEED process] was one of the hardest projects I've ever dealt with before.

- Rey Castro, Chief Building Engineer, Convention Center

### Recommissioning

# Were there any big programs that were part of your submittal?

**Rey:** Yes. We had to do a complete Retro Commissioning, or recommissioning of the facility.

# What's that?

**Rey:** You have to go through your entire facility: go through all the mechanicals, the sequence of operations of everything that was built in 1972 and 1993 and make sure that everything is working like it was designed to work when it was first installed. That's what recommissioning is.

You have to recommission the buildings and make sure everything is working optimally before you can even begin to do your LEED submission.

**Rey:** Right. And that was a very large undertaking in itself. We had to monitor certain areas. We had to develop an operation plan, describing how we do things here, which meant that we had to describe every control network, like your fire and ice safety, lighting control, building automation, sequence of operation for the central plant, sequence of operation for our air handlers, everything. That's a lot of writing and a lot of work; there were many nights working late.

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# A Tour of Key Elements in The LEED-EB Certification

Chief Building Engineer Rey Castro took Club CEO John Hawkins and *Alive!* editor John Burnes on a tour of the Convention Center features that played a big role in the building's LEED-EB certification.

# TOUR STOP 1

# **The Control Room**

The Saving Power Energy Management System, a highly sophisticated new system at the Convention Center, automates energy use and atmosphere management throughout the building. Managers are now able to "trend" the data in advance and automate much of the management, taking far less time to arrive at optimal temperatures and fresh air introduction than earlier pneumatic systems. In addition, this system allows for the temperature and air quality to be changed from a central point, rather than requiring a staff member to walk to a location and change the conditions there.



# TOUR STOP 2

# The Water Chillers

The Convention Center is cooled by a water chiller system – water is chilled at a central location and then piped throughout the building in a loop to localized air handlers. Three new R123 chillers – the building's three main ones, out of a total of seven – use the new generation of refrigerant, just like newer automobiles do, that is much more friendly to the ozone layer. In addition, the new chillers are approximately 100 percent more energy-efficient than the previous generation, which are used at the Convention Center strictly as backup. Rey Castro said he has plans to replace the remaining older-generation chillers, too.

# Taking the Lead On LEED



Rey Castro explains a point about the Convention Center's water chiller system.

### — continued

And we didn't always do it right. I kept throwing some of the tasks back at my crew: "No, no. You've got to do it over. This is not what they're looking for."

As part of the recommissioning, we started monitoring the areas for CO2 levels — the right amount of outside air that should be in the space. If you bring too much in, you have to cool that air, and it takes energy. If you don't bring enough in, then the people will become lethargic, and you create what is known as "sick building syndrome." So we installed CO2 sensors, and now we've become more efficient and healthier at the same time.

# How much did the process cost?

**Rey:** Good question. Not include the man-hours, recommissioning a building costs an average of \$1.25 per square foot. We're about 980,000 square feet. The recommission consultant says, "Well, Mr. Castro, of course we can't charge you that much. But for \$280,000, we'll recommission your facility." That's how much a recommissioning costs. It was mandatory. We had no choice. So that's what it cost, plus the consultant's fee.

And you received an energy loan from the DWP to accomplish this task, correct?

Rey: Yes.

And you've paid that back already, because of the energy savings in the building?

**Rey:** Correct.

That's great.

Rey: It is, isn't it!

Even without the LEED Certification, you still have to recommission every once and a while, don't you?

**Rey:** You should, but not everybody does. It depends. You should have an awesome preventative maintenance program in your facility and never have to worry about recommissioning because everything runs like clockwork. For the most part, that was how we were already operating, so the recommissioning went smoothly.



## **Bottom-Line Results**

What are the results? Is there any way you can say how much more efficient you are now?

**Rey:** Yes. That's what LEED is all about. You start out by creating baselines — your baseline on energy consumption, your baseline on water usage, your baseline on material resources. You first start by creating all these baselines. Once you establish them, then it's up to you to make that better. There's your matrix for quantifying.

How would you quantify that then? What figure would you give to how much better off we are? Is it easy to say?

**Rey:** Remember, we're in the business of selling power. We can't prove those savings absolutely because we have to sell that power [to convention center customers]. We have to use power to make money basically.

Right; so if the convention center's business is up, then you're using more power.

Rey: Correct.

But you can talk about efficiency, though, right?

**Rey:** Yes. As far as making it better and more efficient, I would say we're at least 100 percent better.

# **Technology and Training**

How far has technology come in the last few years?

**Rey:** It's always getting better. It's like computers — you buy one today, and in six months it becomes obsolete. We deal with a lot of building automation controls, which are run off of a network. A lot of places, when they purchase a building automation system, they forget to include, or can't afford, the revisions and training. If you include them at the very beginning, then it's automatic and you're covered.

You've done that here?

**Rey:** Oh yes. We've got that here pretty well. I believe in training my guys to no end. You've got to give them the right tools, the training.

— continued



# The Mayor's Directive 10

There are hundreds of environmentally aware elements in the City, ranging all the way from large-scale, longterm programs, to green buildings like Library's new LEED-Certified branch facility in South L.A., to the blue recycle bins in thousands of cubicles across the City.

Perhaps a better way to summarize the City's plans are to highlight Directive 10 — the mayor's plan for a green L.A., and to list some of the major green efforts by the DWP and the Harbor. For much more information on any of these programs, you can find dozens of pages on the Websites of the Environmental Affairs Dept., the Mayor's Office, the DWP and the Harbor.

# **Directive 10: Sustainable Practices**

In July 2007, Mayor Antonio Villaraigosa put forth Executive Directive 10, a comprehensive vision that instructed the City's departments to create department sustainability plans with Environmental Affairs to guide their efforts. Environmental Affairs is helping the City's departments develop departmental sustainable plans by assessing its current operations, including internal policies, procedures, programs and initiatives to identify and then create departmental sustainability plans. In the future, Environmental Affairs will broaden that approach to a Citywide sustainability plan. The Citywide sustainability plan is a longterm document that will guide the City for the next decade in sustainability practices. It will help the City integrate environmentally sustainable practices into City policies, procedures, operations, and foster collaboration across City government.

The department plan and future Citywide sustainability plan will cover the areas for:

- Sustainable Design
- Energy and Atmosphere
- Materials and Resources
- Water Efficiency
- Landscaping
- Transportation Resources
- Community ImpactsEconomic Sustainability
- Environmental Stewardship

For much more information on any of these plans, go to:

www.mayor.lacity.org/villaraigosaplan/ EnergyandEnvironment/ LACITY\_004467.htm

# The DWP

As the largest municipal utility in the United States, the DWP has an obligation to take a leading role in the fight against global warming. The department is taking major steps to reduce the City's carbon footprint, protect its water supply and make Los Angeles a greener, cleaner place.

Some elements of the DWP's program include:

- Building the country's largest city-owned wind farm generating station, near Mojave. Look for future stories in *Alive!* on this project.
- Purchasing renewable energy.
- Promoting energy efficiency.
- Conserving water.
- Planting trees.
- Recycling and reusing.
- Improving vital infrastructure.

For more more information on all these programs, go to:

www.ladwp.com/ladwp/areaHomeIndex.jsp?contentId=LADWP\_GREENLA\_SCID

# The Harbor Dept.'s Clean Air Action Plan

The San Pedro Bay ports of Los Angeles and Long Beach have developed an aggressive strategy to significantly reduce the health risks posed by air pollution from port-related sources.

The Clean Air Action Plan is the most comprehensive, far-reaching strategy to combat air pollution ever developed by any United States seaport. It will involve hundreds of millions of dollars of investment by the ports and private sector businesses and will expedite the introduction of new and innovative methods of reducing emissions prior to that of any federal or state requirements.

### Harbor's Pollution Reduction Strategies

- The Clean Air Action Plan addresses every category of port-related emission sources ships, trucks, trains, cargo-handling equipment and harbor craft and outlines specific, detailed strategies to reduce emissions from each category.
- The ports propose to eliminate "dirty" diesel trucks from San Pedro Bay cargo terminals -- The ports will join with the state and local agencies to finance programs to replace trucks with a new generation of clean or retrofitted vehicles.
- The ports, along with the South Coast Air Quality Management District, propose to allocate more than \$200 million over five years towards this effort and will also aggressively seek state bond funding to assist with this massive truck replacement initiative.
- As part of the Plan, all major container cargo and cruise ship terminals at the ports would be equipped with shore-side electricity within five to ten years so that vessels can shut down their diesel-powered engines while at berth.
- Ships also would be required to reduce their speeds when entering or leaving the harbor region, use low-sulfur fuels, and employ other emissions reduction measures and technologies.
- Within five years all cargo-handling equipment would be replaced or retrofitted to meet or emit at levels below those called for in the toughest U.S. Environmental Protection Agency emissions standards for new equipment.

■ Without the Clean Air Action Plan, much of the cargo handling equipment

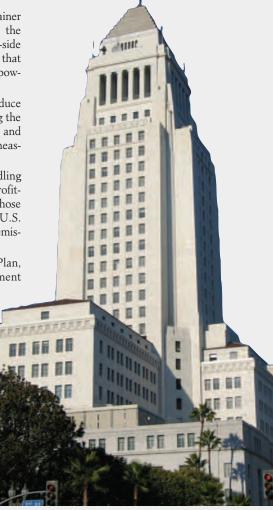
not affected by the California Air Resource Board's recently adopted cargo handling equipment regulation would be allowed to operate at current emission levels until it wears out.

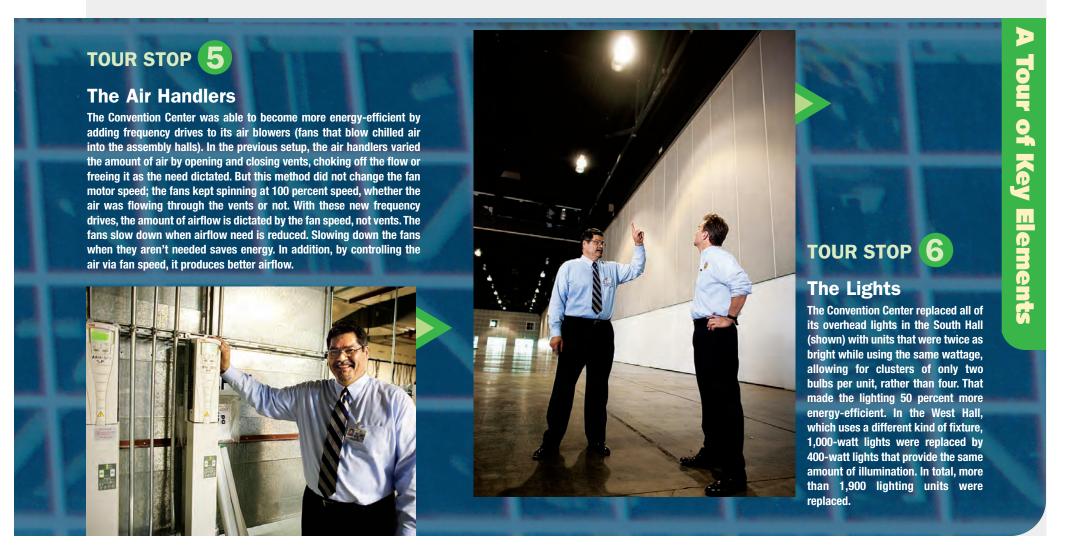
■ Within five years all switching locomotives operating in the Ports also will meet the toughest U.S. Environmental Protection Agency standards for new locomotives, use cleaner fuels and exhaust treatment and devices that will

automatically shut off engines to prevent extensive idling.

- In addition, all new rail yards must use the cleanest technologies available for locomotives, trucks, and cargo handling equipment within their facilities.
- The Plan also includes a far-reaching research component to address and ultimately overcome obstacles that impair the utilization of the cleanest vessels, engines and equipment in the world at the ports of Los Angeles and Long Beach.

For more information, go to: www.portoflosangeles.org/environment/caap.asp





# Taking the Lead On *LEED*

# **An Executive Summary:**

The Convention Center's LEEDS-EB Application ↑he Convention Center (LACC) was originally constructed in 1971 on more than 54 acres

of land in downtown Los Angeles. The center went through a major expansion in 1993 to construct a large exhibit hall to accommodate increased demands for the facility. The center now comprises of 720,000 square feet of exhibit space and 102,000 square feet of contiguous meeting room space. In total, the LACC has more than 4.1 million square feet of

In 2007, Pouria Abbassi, General Manager, Convention Center, met with the Chief Building Engineer to discuss the possibility of becoming LEED-EB Certified with the U.S. Green Building Council (USGBC). The USGBC is a nonprofit community of leaders that establishes internationally recognized standards for green performance within commercial and residential buildings. There are currently more than 100 buildings within the United States that are

The Convention Center has been modernizing its equipment for several years, but it was Abbassi who recog-LEED-EB Certified, totaling more than five million square feet of space. nized that the enhancements needed to be not only cost-effective, but environmentally sustainable.

This submission process was a huge undertaking and a collaborative effort. Unlike LEED Certification for New Construction projects, LEED for Existing Building Certification is considered one of the most challenging to achieve because it requires retrofitting and process improvements to existing equipment.

The LEED-EB Project team was put together by the Chief Building Engineer Rey Castro and administration. This team consisted of several members who were identified as the subject matter experts in their particular fields. While the LEED-EB Certification team was being put together, the LEED-EB Project Manager hired a consultant to

help and assist with the LEED-EB project.

To achieve LEED-EB Certification, the team needed to earn a minimum score of 32 credit points. Because of an increase in recent business, the Convention Center has been steadily increasing the number of events per year. With an increase in events, energy usage increases, too. This increase in business (and energy usage) prevented the Convention Center from achieving all the credits it could in pursuit of the LEED-EB certification.

The Convention Center already had an established material recycling program, which turned out to be its biggest point credit maker. The total possible credit points achievable under the material recycling category were 16. The Convention Center earned 14 out of a possible 16 credit points.

Once all the documentation was completed for the review process, the application was first turned over to the **Submission and Final Outcome** 

LEED consultant for review prior to formal submittal to the USGBC.

The score required to achieve base-level LEED-EB certification was between 32 and 39 points. Out of the

42 credits attempted, the Convention Center earned 34 credits. In September, the Convention Center became the first U.S. convention center of its size and age, and the first existing building in the City of Los Angeles, to be awarded LEED-EB Certification by the USGBC. While the Convention Center represents approximately 1 percent of all LEED-EB certified buildings, it represents more than 80 percent of the total square footage in LEED-EB buildings.



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A lot of people must have worked a lot of hours on this.

**Rey:** Yes, absolutely.

### How many people?

Rey: About 15 on the team. You have clerical support. You've got your supervisors for certain divisions. Maybe a couple of senior employees also helped out.

## **Recognizing an Asset**

## Tell me about the recognition from the City Council in January. It must have been nice.

Rey: Yes. First though, when we got certified, the U.S. Green Building Chapter from LA came over here and gave us the award. But it wasn't until we went to City Council that I really felt that we finally got recognition. That was

# What are your customers saying? Has it become a marketing tool?

**Rey:** Oh yes, very much so. There are some customers that would prefer to come to your building because it's LEED Certified, because you're doing the right thing.

### They're probably getting pressure from their corporate bosses to use LEED Certified buildings.

Rey: Not only that, but now there are some events where clients want to offset the power that they would use for their event by purchasing renewable power. Let's say there's a client like Microsoft. They want to do the right thing, too. They know they're going to use power. So what they're doing is buying these green chips or certificates for the same amount of power that would have been used during their show.

# Why is LEED Certification important?

Rey: That's a good question. Before, all I cared about was conserving energy. Since I've been exposed to LEED, now I realize there's much more to it than just energy. There's the environment that we have to consider now. What's going to be left for their children? We should have started already a long time ago, so what can we do now? We're dealing with the wreckage of our past and we're trying to make it better. It is a big movement. It's so great, so awesome to see 30,000 people at a Green Building Conference all gathered there for one common cause. It's incredible.

# Have you been networking about the process?

**Rey:** Yes. Other convention centers are calling us, asking us how we did it. I've been networking with the Boston convention center and another committee in Texas. They're calling me.





### **What's Next**

# What's next? Not only here in the Convention Center but in the City.

**Rey:** The whole City is now on this bandwagon to become more green, more efficient. This is under the direction of the mayor, Directive Number 10.

For us, we always wanted to do the right thing. We're always trying to conserve power and energy.

We want to get more renewable energy here — more solar power. There's better solar technology than there was ten years ago. There are better incentives for solar, too. There are power purchase agreements, where contractors will be more than happy to install everything for you and generate enough power that they'll be able to sell it to you at a lower rate than the DWP sells it to you. I'd like to see that here.

Of course I want to go for a higher LEED certification level. My goal for this year is to go for silver. My General Manger is telling us to go for it because that's a better thing to do, but it's a challenge. You have to come up with strategies and ways of achieving these credits.

### And the City has a task force now.

**Rey:** Yes. That started when the mayor put out his Directive 10. A task team or liaison team was developed out of General Services, where you have representatives of every City department meet on a regular basis to discuss how they're going to implement the mayor's plan.

# A Better Facility, a Changed Man

# Was it worth doing?

**Rey:** I'll tell you. There were times when I would go home very frustrated and really upset. Sometimes you don't get all the cooperation that you want, or you have to chase after people. Or maybe not everybody believes in it like you do. You have to watch out for that when you have a team and make sure that everyone's on board. I even drove to San Diego one time in the afternoon with a truck to pick up some filters because we had to change them before the recommissioning process started. We needed a big batch, and it wasn't going to get here for a couple of weeks, which would have been too late. So I went and got them myself.

At times, it was hell, man.

# We really excelled because we recycle like tomorrow here."

- Rey Castro, Chief Building Engineer, Convention Center



### But it has to be worth it to you, though.

**Rey:** It is. I am very proud. If anything, I'm a changed man from it, because of it. Before, I believed only in saving power and energy, the heck with the environment. But now it all matters to me. Now I'm preaching it. Now I'm networking. Now anybody I can talk to about it, if I have an opportunity to mention it to them, I do that

Going through this process converted you.

Rey: Absolutely.

# Would you encourage homeowners to look into what they can do personally?

**Rey:** Oh, absolutely. There's LEED for residential certification. You can do all kinds of stuff at your home, from reclaiming the water after it rains from the gutter.

# Are you doing more at home?

**Rey:** Yes, I am. I get harassed at home sometimes for throwing away a bottle cap in the wrong can instead of the recycle can.

# Thanks for your time, Rey. And congratulations!

**Rey:** Sure. Come back and check on us next year!



Rey Castro, Chief Building Engineer, led the Convention Center team that earned the building's LEED-EB Certification.

### TOUR STOP 9 ır of Key Elements The Material **Recycling Program** In 2001, the Convention Center officially implemented an internal and independent recycling program that reported diversion numbers directly to Public Works/Sanitation. The Convention Center annually diverts and recycles more than 733 tons (1.46 million pounds) of recyclable goods. The Convention Center recycled 860,000 pounds of concrete in 2006 derived from a needed concrete slab renovation project. It also recycled 20 tons of gravel with the 2007 cool roof replacement project. Additionally, in collaboration with one of the Convention Center's vendors in the exposition services industry, the facility diverts recyclable material that is left over from exhibitor's use. For example, the vendor estimates that the following materials were recycled from Convention Center TOUR STOP 10 activity: Aluminum (2006): 511 pounds Carpet padding (2007): 1,668 pounds **The Food Service Recycling Program** • Steel (2007): 11,008 pounds The Convention Center's Public Food Services operates with a 100 percent environmentally friendly • Plastic (2007): 1,421 pounds approach, using serviceware products that can either biodegrade or can be composted. The service ware White paper (2007): 743 pounds products are made from materials derived from natural ingredients such as: sugarcane pulp, raw bam-• Carpet (2007): 27,527 pounds boo pulp, palm fiber, wheat chaff, rice chaff, bull rush (tulles), savanna grass, corn starch and organic