



State of Florida

Public Service Commission**-M-E-M-O-R-A-N-D-U-M-**

DATE: June 12, 1995
TO: Blanco Bayó, Director, Records and Reporting
FROM: Joy Kelly, Chief, Bureau of Reporting
RE: 941170-EG, May 16, AGENDA CONFERENCE

IN RE: ITEM NO. 5 OF THE MAY 16, 1995 AGENDA CONFERENCE,
APPROVAL OF DEMAND-SIDE MANAGEMENT PLAN OF
FLORIDA

DOCUMENT NOS. 05390 6-12-95

The transcript for the above-described hearing has been completed and is forwarded for placement in the docket file, including attachments.

Please note that Staff distribution of this transcript was made to:

LEGAL, AFAD, CMU, SOLD

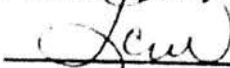
The following exhibits are being filed with this transcript:

NONE

The following exhibits have not been furnished to the Bureau of Reporting to date and do not accompany this transcript:

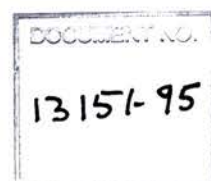
NONE

Acknowledged by:



JK/pc

PSC/RAR 28 (Rev 7/94)



MEMORANDUM

OCTOBER 2, 1995

RECEIVED

FPSC-RECORDS/REPORTING

TO: DIVISION OF RECORDS AND REPORTING
FROM: DIVISION OF LEGAL SERVICES (BROWN) MCB
RE: DOCKET NO. 941170-ET - APPROVAL OF DEMAND-SIDE MANAGEMENT
PLAN OF FLORIDA POWER & LIGHT COMPANY.

Please enter the attached letter and pamphlets in the
correspondence file of the above-referenced docket. Thank you.

MCB/js
Attachment
I: BAYOMEMO.MCB



cool communities

AMERICAN FORESTS P.O. Box 2000 Washington, DC 20013 • 202-667-3300 • Fax: 202-667-7751

September 21, 1995

Martha Carter Brown
Division of Legal Services
Florida Public Service Commission
2450 Shumard Oak Blvd.
Tallahassee, Florida 32399-0850

Re: Public Comment Docket No. 930548
Florida Power & Light Company

Dear Ms. Carter Brown:

The purpose of this letter is to urge the Public Service Commission to allow the Cool Communities energy conservation research project to go forward and to request that I be placed on the Florida Public Service Commission mailing list as an interested person.

I represent American Forests, the national nonprofit organization for the care and preservation of trees and forests. My responsibilities in Florida include coordinating the Dade County Cool Communities Program. Cool Communities is a national research and education project of the U.S. Department of Energy which is being piloted in seven cities in the U.S.A. The project will measure the effect of trees and white surfaces on energy use in different climatic regions around the country. Although the effect of trees to shade single buildings has been known for years, the cooling effect of a strategic canopy on entire neighborhoods has never been measured. In each of the seven cities, the utility's role is to provide measurement and monitoring, but the community must raise the funds to plant the trees and lighten the building surfaces.

First, Cool Communities is, by necessity, a community-based research project in which hundreds of homeowners participate by strategically planting trees in their yards. Our local advisory committee, which has been active for three years, has selected demonstration neighborhoods and informed the local residents living there of their involvement. Grass-roots fundraising has been underway for two years to raise money to buy the trees for the selected neighborhoods. In 1994 and 1995 thousands of school children participated in pledging for the Global ReLeaf Earth Day



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MAIL ROOM
1995 SEP 25 AM 11:51

Walk for Trees to fund the Cool Communities implementation and more 7,000 community residents collected pledges totaling \$40,000 from friends, neighbors and corporate sponsors. I have included newspaper clippings as well as pledging materials so that you can see the extent of community support for the Cool Communities project.

To date, not a single tree has been planted in hurricane devastated South Dade to shade the homes in the Cool Communities project neighborhoods. We have been delayed in implementation waiting for FP&L to begin their participation in Cool Communities. As a research project, the technical advisors insist that FP&L install their measurement devices for baseline data collection before we plant the trees.

Secondly, since Cool Communities is a national model for measuring the effects of trees in several cities. The effectiveness of the national program depends upon standardized monitoring techniques in the seven cities. The cooperating utility partners in other cities have already installed the special meters and weather stations, yet Florida lags behind.

FP&L is a critical partner in the Cool Communities local education efforts and the national program model and we urge the Public Service Commission's action to assure FP&L's timely participation.

Please keep me informed of your decisions.

Sincerely,



Nancy Masterson
Southeast Region Coordinator
American Forests
33 S.W. 2nd Avenue, Suite 1200
Miami, Florida 33130
(305) 372-6555

NM:jj

cc: Gary Moll, AF, Washington, D.C.
Mark Decot, U.S. Dept. of Energy

It's Easy Being Green

Ask your family, friends, co-workers, and neighbors to sponsor you. Use this Pledge Roster to record the names and addresses of your sponsors.

- Raise at least \$12 in advance to register for the Walk
- Raise at least \$15 to register in person on Earth Day
- Children under 7, raise at least \$5 to enter the Walk
- Raise at least \$50 for a Global ReLeaf 25th Earth Day Commemorative T-Shirt (while supplies last)
- Raise \$500 for a Famous and Historic Tree Award
- SCHOOLS:** Raise at least \$200 as a group to be eligible for a School Yard Habitat.
- GROUPS:** Raise at least \$5,000 for a Living Classroom for the school of your choice.

Non-Profit
Organization
U.S. Postage
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Miami, Florida
Permit No. 6954

Walker Registration

1. Fill out *and sign* the Walker Registration Form
2. Be sure to fill in the Team/School name if you are with a group.

HOW TO PRE-REGISTER BY MAIL:
(We encourage you to pre-register!)

3. Mail registration form, checks or money orders (NO CASH) by April 14 to:
Walk For Trees/Miami Runners Club
Tropical Park Stadium
7920 S.W. 40th Street • Miami, FL 33155
4. Check in at the Registered Walker Tent at the Walk. (If eligible, your T-Shirt will be reserved for you.)

HOW TO PRE-REGISTER IN PERSON AND PICK UP T-SHIRTS IN ADVANCE

3. Bring signed registration forms and checks (NO CASH) from Monday, April 17 to Friday, April 21 between 9 a.m. to 5 p.m. to Miami Runners Club, Tropical Park Stadium
7920 S.W. 40th Street, South End Lower Level
4. Check in at the Registered Walker Tent at the Walk.

HOW TO REGISTER ON THE DAY OF WALK

3. Bring your friends and come as early as 7:30 a.m.
4. Come to the New Registration Pick-Up Tent

For more pledge forms and posters, call the DERM Baynanza Line: 305-372-6798.

Plant Trees - Cool the Globe

AMERICAN FORESTS is the oldest national citizens' conservation organization, founded in 1875 to preserve and protect forests and trees. Since beginning its Global ReLeaf program in 1988, more than 2 million trees have been planted in 54 projects in 31 states. Trees are planted on public lands to restore and maintain habitats for threatened or endangered species. AMERICAN FORESTS brings people together through Global ReLeaf, Cool Communities and Living Classrooms for action and education to protect and restore urban and rural forest ecosystems. To make a general donation by credit card, please call 1-800-8RELEAF (1-800-873-5323). Our 501(C)3 tax ID is #53-019-6544.

© 1995

Global ReLeaf Earth Day Walk for Trees
Saturday, April 22, 1995

c/o Metro-Dade D.E.R.M.
33 S.W. Second Avenue
Miami, FL 33130



Cool The Globe - Plant a Tree!

AMERICAN FORESTS

People Caring For Trees and Forests since 1875

Walk for Trees Walker Registration Form

Last Name

First Name

Telephone

Address

City

State

Zip Code

T-Shirt Size:

S M L XL

Team/School name



Amount Enclosed \$

Make all checks payable to: Global ReLeaf

In consideration of accepting this entry, I, the undersigned, intending to be legally bound thereby, for myself, my heirs, executors and the administrator, waive and release any and all rights and claims for losses and damages I have against Americas Forests, Miami Runners Club, the City of Miami, AT&T, Bayfront Park Management Trust, Metro Dade County, the Walk for Trees sponsors, event directors and their officers, members and volunteers, and any and all sponsors including other parties and their representative successors and assigns, for any and all injuries suffered by me in said event. I attest that I am physically fit and have sufficiently prepared to participate in the event. I also attest that no medical doctor has advised me against participating in this particular walk or any other similar type of event. Further, I hereby grant full permission to any and all the foregoing to use photographs, videotapes, motion pictures, recordings or any other record of this event for any purposes whatsoever. Use of baby joggers, strollers, skateboards and rollerblades are prohibited during the events. We advise against the use of radio, tapes or CD headsets while walking. Please be advised that South Florida weather can be very hot and humid. To avoid dehydration and fatigue, drink plenty of fluids before and during the Walk.

NO ONE MAY ENTER WITHOUT SIGNING THIS WAIVER.

Signature of Walker

Date

If under 18, signature of parent or legal guardian

Relationship

Hot Times— City Summers

When the sun beats down on the barren sidewalks and black asphalt of our urban areas, our cities heat up and stay hot. On the average, urban areas are up to 10 degrees warmer than the surrounding countryside. This phenomenon is known as the urban heat-island effect. In the summer, the urban heat island is more than just uncomfortable — it costs us up to \$1 million per hour in cooling, increases the likelihood of unhealthy smog levels, and could contribute to global warming.



Cool Down, Lighten Up

Our challenge is to cool our communities. Fortunately, there are two simple, low-cost, and effective ways to make a difference: strategic tree planting and surface color lightening.

Cool Green, Bright White

Trees are naturals at moderating temperatures. They keep their surroundings cooler in the summer by providing shade and evaporating water from their leaves, and warmer in the winter by blocking icy blasts of wind. The right trees in the right places around our buildings could reduce energy usage by 10 to 50 percent.

And if we add some white to the green in our neighborhoods, we could save even more energy. By lightening the colors of parking lots and buildings so that heat-generating solar radiation is reflected, communities could reduce their peak cooling energy use by up to 50 percent.

Altogether, greening and lightening our communities could save us up to 40 billion kilowatts of electricity each year and prevent the release of up to 35 million tons of carbon dioxide annually.

Planting . . .

Plant and care for trees around your home to maximize their benefits. Two deciduous trees planted on the west-facing side, and one planted on the east-facing side, will provide shade in the summer, while allowing the sun to warm your house in the winter. A few evergreen trees on the north and west-facing sides of your home will block cold winter winds and could help reduce your heating bill. Ask your local nursery for advice in selecting the right trees for your home. And before planting, check up and down — avoid overhead wires and underground cables!



. . . and Painting the Town

Most buildings and flat roofs are regularly repainted or resurfaced. So when the time comes around again, color them light! Replace dark-colored roof shingles with light-colored products. If possible, resurface streets and parking lots with light-colored asphalts or concrete. And paint newly built structures with light colors.

A few facts about urban heat islands

- ✓ The temperatures of our urban areas are typically 2 to 10 degrees Fahrenheit warmer than the surrounding countryside. This increased temperature means increased cooling costs, energy use, and air pollution.
- ✓ Preliminary research suggests that if current heat-island trends continue, our cities will be 10 degrees Fahrenheit warmer in 50 years.
- ✓ 6 to 8 percent of current electricity demand is used to compensate for the heat-island effect alone.
- ✓ Trees and light-colored surfaces could potentially cut individual home energy bills by \$100 to \$200 annually.

For more information

Cool Communities is a program of AMERICAN FORESTS, sponsors of Global ReLeaf, and the U.S. Environmental Protection Agency, in cooperation with other governmental and non-governmental agencies. Designed to implement strategic tree planting and surface-color lightening and monitor their effects on energy consumption, the program is being piloted in seven model communities across the country. For more information, contact the Cool Communities Coordinator, AMERICAN FORESTS, at 202/667-3300.



PO Box 2000
Washington, DC
20013-2000



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Cool Communities


*Saving Energy, Money,
and the Environment*



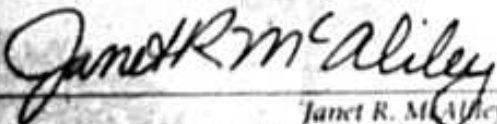
Thank you for pledging your support to
**The Global ReLeaf Earth Day
Walk for Trees**

(Name)

*Your pledge will help make South Florida a cooler,
greener, more beautiful place to live and visit.*


R. Neil Sampson, Executive Vice President
AMERICAN FORESTS for Global ReLeaf




Janet R. McAuley
Dade County School Board Member
Global ReLeaf Earth Day Walk for Trees
Honorary Chairperson



cool communities

AMERICAN FORESTS P.O. Box 2000 Washington, DC 20013 • 202-667-3300 • Fax- 202-667-7751

What is Cool Communities?

Cool Communities is a national, action-oriented environmental improvement program of AMERICAN FORESTS and the U.S. Dept. of Energy. It was established to demonstrate that a concerted attempt by citizens, organizations, businesses, and governments to implement strategic tree planting and light-color surfacing can combat the Urban Heat Island Effect by significantly reducing per-capita energy consumption. Cool Communities promotes energy conservation and monitors the energy savings and temperature reductions resulting from these two low-cost energy conservation strategies.

Although the cooling effect of shade on a single building has been known for many years, this is the first research on the effects of trees on the micro-climate of entire neighborhoods.

In 1992, pilot cities of various climate zones were chosen to initiate the research and public education programs. Dade County is one of only seven cities to initially test the program. The others are Austin TX, Frederick MD, Tucson AZ, Atlanta GA, Tulsa OK and Springfield IL. On May 19, 1992, the Dade County Board of Commissioners passed a resolution approving a Memorandum of Understanding with AMERICAN FORESTS to support Cool Communities. In October 1993, President Clinton released the Climate Change Action Plan that substantially expands Cool Communities to 250 cities and 100 Dept. of Defense military bases by the year 2000.

In each city, the utility collects the scientific data and the community raises funds to implement tree-planting and surface color lightening. A 20 member Dade County Advisory Committee selected model neighborhoods to illustrate the different tree and light surfacing conditions. Florida Power & Light will design and implement energy and climate monitoring at Cool Communities sites. The Dade County demonstration neighborhoods are:

- | | |
|---|--------------------------------------|
| ◆ Existing Tree Canopy Site: | Residential South Miami |
| ◆ Increase Tree Canopy Site: | Richmond Heights, South Dade |
| ◆ Roof Color Lightening Site: | Downtown South Miami |
| ◆ Existing White Roof Site: | Weitzer Hammocks, West Kendall |
| ◆ New Construction Trees & White Roofs: | Habitat For Humanity, Jordan Commons |

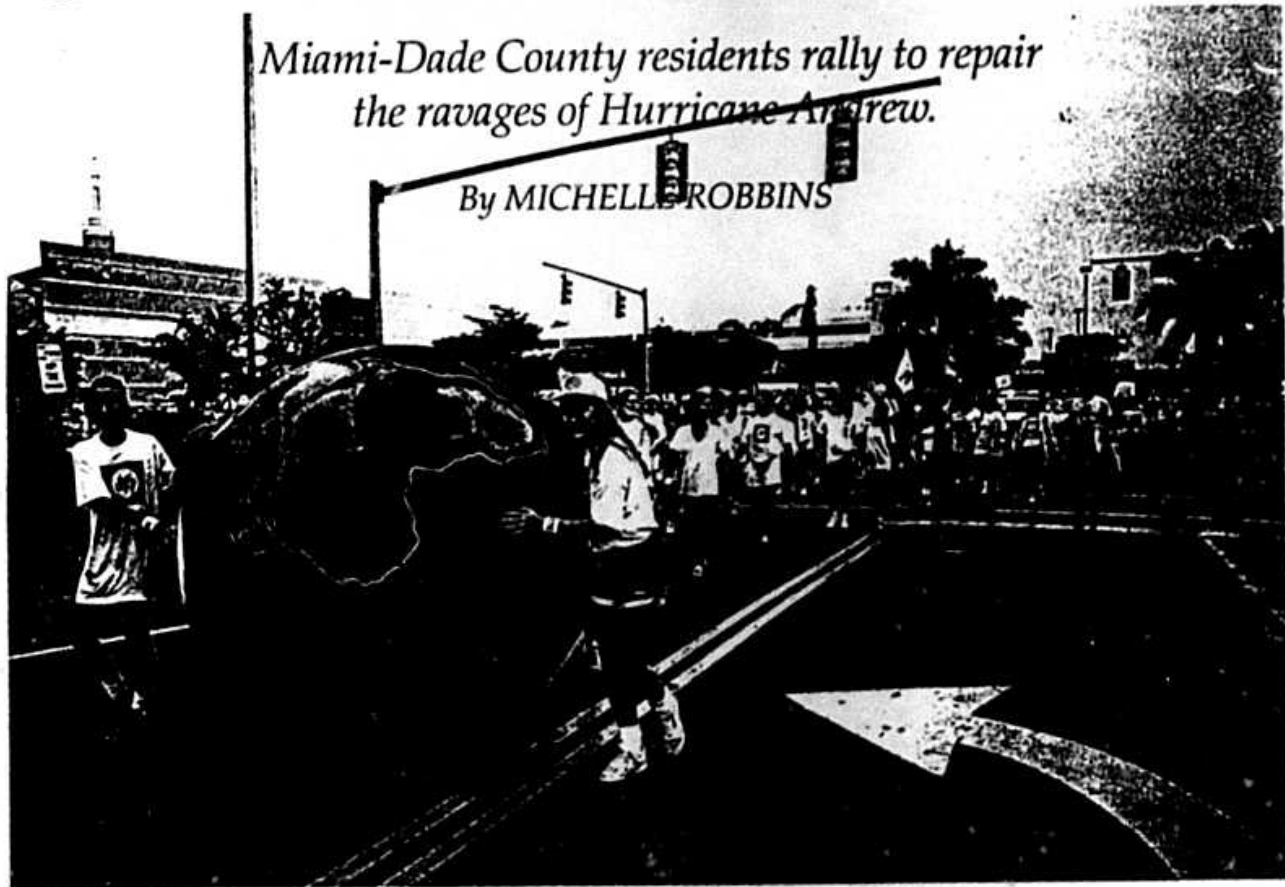
AMERICAN FORESTS is the oldest national citizens' conservation organization, founded in 1875 to preserve and protect forests and trees. Since beginning its Global ReLeaf program in 1988, more than 2 million trees have been planted in 54 projects in 31 states. Trees are planted on public lands to restore and maintain habitats for threatened or endangered species. AMERICAN FORESTS brings people together - through Global ReLeaf, Cool Communities and Living Classrooms - for action and education to protect and restore urban and rural forest ecosystems.

For information, call Nancy Masterson, Dade County Cool Communities Coordinator,
(305) 372-6555.

Walking for a Greener South Florida

Miami-Dade County residents rally to repair the ravages of Hurricane Andrew.

By MICHELLE ROBBINS



Annika Schael, left, and Heidi Mason, both from Ransom Everglades Upper School, take charge of a six-foot Earth ball to lead the Walk for Trees.

ALEIDA SOCARRAS was wet. The rain had been steady, and her clothes and shoes were soggy. The coworkers she had convinced to take this Saturday walk in the rain were teasing her about not bothering to show up for work on Monday. She was having a great time.

If Hurricane Andrew has a positive legacy, it's the enormous potential it is creating for a greener south Florida. If you doubt that, just ask Socarras and the 1,500 other residents of the Miami-Dade County area who took a symbolic four-mile trek April 23 in support of tree planting. The rain dampened neither the

crowd's enthusiasm nor the results of the first-ever Global ReLeaf Walk for Trees, organized by AMERICAN FORESTS and sponsored by a host of local businesses and organizations. One result was the raising of more than \$50,000 for local tree-planting projects.

Socarras said later she was walking

on behalf of her employer, Peoples Gas Systems; the Leadership Miami Group of The Greater Miami Chamber of Commerce; and her son, who belongs to an environmental club at school. As for her coworkers, who told her afterward they preferred a rainy walk to a hot, sunny one, she said with a laugh, "I have a new appreciation for all of them."

The walk kicked off with a rally that featured environmental cheers,

strolling, costumed characters, a large "earth ball," and a proclamation that Saturday was officially recognized as Global ReLeaf Walk for Trees Day in Dade County. Storm clouds gathered along with the walkers but failed to spoil a mood that was part community picnic and part environmental rally, with a little circus rolled in. Participants came armed with umbrellas, signs, and message T-shirts ("The earth needs all the friends it can get," said one), and proceeded to walk, run, or rollerblade the route. Some came with little ones firmly in hand, in strollers, or in backpack carriers.

Janet Perales of the Friends of Metrozoo was preparing to man a water station and cautiously eyeing the darkening sky. "Just the mere fact that they're trying to get the community involved is fantastic," she said. "Getting young kids involved sends out a positive message to the community here."

The presence of so many students made it clear that the area's young people are not going to sit idly by and wait to inherit the Earth. As the crowd shouted its encouragement, students got the walk rolling—literally—by navigating a six-foot globe down a set of steps toward the starting point. There they were joined by banner-toting Global ReLeaf student cochairs Samantha Ibarguen and Meghan Hauptli.

Lorraine Brill walked briskly through what became a warm and steady spring rain—participating, she said, at her daughter's urging. To her, trees mean "oxygen, beauty... just about everything."

The \$50,000 raised that day and subsequent contributions will go to plant trees in Cool Communities demonstration sites at Homestead Habitat for Humanity's new ecological community and in the neighborhood of Richmond Heights. Cool Communities is an

Department of Energy project aimed at reducing energy use through strategic tree planting and the lightening of surface colors. It is one of the projects in the Clinton Administration's Climate Change Action Plan.

Some of the Walk money will go to support the Tamiami Pine Preserve, part of Dade County's 4,400 acres of pine rockland. Andrew killed more than 90 percent of the area's mature slash pine; what was left has been devastated by severe outbreaks of pine bark beetles and pine reproductive weevils. Lead sponsor AT&T announced at the walk that it will contribute to the restoration of the Tamiami Pine Preserve by planting 500 trees there.

"People here don't take trees for granted anymore."



BACKERS FOR WALKERS

AMERICAN FORESTS wishes to thank the many individuals, groups, and companies that helped make the first-ever Global ReLeaf Walk for Trees such a success. Among them: AT&T, the lead sponsor; Chevrolet/Geo and local dealership Sun Chevrolet; City Gas; Dade County, which declared April 23 Global ReLeaf Walk for Trees Day; Florida Power & Light; Hard Rock Cafe; Hi-Rise Recycling Systems; Metro Dade Department of Environmental Resources Management, Transit Agency, and Park and Recreation; Peoples Gas Systems; Seagrams; Texaco; the Miami Herald/El Nuevo Herald; WCIX-6; and WSHE. Coordinating organizations included: Citizens for a Better South Florida; Sierra Club, Miami; Perrine Cutler Ridge Council; Tropical Audubon Society; Homestead Habitat for Humanity; Florida International University; and honorary chairperson and Dade County School Board member Janet McAilley.

Michelle Robbins, American Forests' managing editor, was among the Dade County walkers. Her sneakers are still damp.

(For more on Tamiami, see "Healing Hurting Lands" in the January/February issue.)

Jim Marshall, president of the Richmond Heights Homeowners Association, said his community is excited about being part of Cool Communities and bringing nature back into their area. "We lost so many trees," he said.

Nicholas Mau is only 9, but he gathered 14 pledges and spoke admiringly of a friend who collected 31. Trees "give off air. They shade. They give fruit and food, and they're nice to climb in," he said.

The weather was blamed for lowering the expected turnout of walkers, but those that came remained upbeat. Walkers chatted about kids, school, and families, rather than the weather—as they strode past well-treed homes in shades of peach and tan.

John Upman brought his son Brian, 13, along on the walk. Upman, horticulturist for Dade County Parks, admitted he's trying to steer his son in the direction of an environmental career, although a grinning Brian did not as yet appear convinced.

The Upmans moved back into their home only a few weeks before the walk. Away when the hurricane hit, Upman and his family returned to find all the landmark trees gone and the neighborhood hard to recognize. For South Dade now, he said, the biggest problem is people not knowing enough about the science of trees and planting and pruning. The devastation is so widespread that residents have left "terrible specimens" of trees that will become hazards in a couple of years because "people are just so glad to have something green."

Aleida Socarras said a lot of her home-damage came from falling trees, and her husband initially wanted to replace them all with shrubs. But they're learning the best ways to plant and maintain their trees, something they didn't think about before.

Tamara Daley and Armentino Toster walked together under an umbrella. The Palmetto Senior High School National Honor Society members said their group had raised \$2,000 for the walk, an Honor Society service project. Daley, who lives in the Richmond Heights area, said that with the amount of environmental degradation going on today, it's important for people to know the benefits of trees.

The purpose of the Walk was to educate as well as fund, and it featured tree identifications and an informative trip along a wooded trail leading to Matheson Hammock Park. Numbered stations along



Hundreds of walkers gather before the start of the walk, undeterred by a threatening sky

the trail highlighted local ecology such as limestone rock, left from when south Florida was covered by water thousands of years ago, and overgrowth by non-natives such as Jasmine vine, a result of hurricane destruction that let more light into the hammock. The struggle between native species and invasive exotics was highlighted by an area along the trail in which plant species were tagged with colored ribbons to show how natives are being pushed out. The literature provided to walkers explained that exotics do not have to contend with local natural controls—bugs and disease—that keep natives in check.

Many of the soggy walkers opted to bypass the food, music, and exhibits in the park and headed for the tree buses back to the MetroRail station. But those who stayed enjoyed a menu prepared by Miami's Hard Rock Cafe. Employee volunteers staffed the food tent, and executive chef Yves Ambrose said the money would go to feed the homeless. The hurricane "made people more appreciative of what they have," he said.

That thought was echoed by Texaco's San Jayne Koshetz. New to the area, she's impressed by how environmentally aware the people of south Florida are. "It's important for children to learn at this age to appreciate the environment," said Koshetz, manager of public and government affairs for Texaco's Latin America West Africa division. "People

here don't take trees for granted anymore."

Two orange-vest-clad rescue dogs, members of Metro Dade's Fire and Rescue Squad, were among those taking part in the festival. Off-duty, they walked to show their own personal attraction for trees. Lt. Joe Beale pointed to the male member of the canine team and joked, "He needs trees."

In a more serious tone, Beale said events like the Walk are important. "They bring a little more awareness of the necessity of taking care of the urban landscape," he said, adding he'd like to see more attention paid to trees than to some other amenities.

The exhibits offered information on everything from Everglades protection projects to native plants and the work of Habitat for Humanity. A woman from Parrot Jungle, a local attraction, strolled the crowd with a living avian shoulderpiece. While the adults ate and perused the exhibits, the younger crowd took advantage of the globe resting in the field. As the Cars' "Here She Comes Again" wafted from radio station WSHE's truck, the young people took turns racing across the field with it, occasionally rolling over a companion in their enthusiasm.

Juan Sweeting, a teacher at Campbell Drive Elementary School in Homestead,

stood with a group of walkers from his school. He spoke proudly of a tree planting project that has fourth- and fifth-graders taking care of trees. The hurricane made Campbell Drive Elementary think twice about the trees it had taken for granted around the school.

"I think people realized the importance of trees that Friday. When they went home, there were beautiful trees. When they came back to look on Monday, everything was gone," he said.

AMERICAN FORESTS Executive Vice President Ned Sampson thanked those who stuck around for a brief awards ceremony. "As a result of your efforts, we raised more than \$50,000 today for tree planting in south Florida," Sampson said. "The earth's

environment is not a one-day event, not a Saturday in the park. Everything we do matters. The people of South Miami and Dade are showing that.

"I hope we can keep this momentum going. We can enter the next century with a much better world because of your efforts."

Among the awards presented, Barry Johnson of lead sponsor A&I presented a Living Classroom, including a group of Famous & Historic Trees and educational materials, to Whispering Pines Elementary School. (For more on Living Classrooms, see "The Living Classrooms Idea" in *The March/April issue*.) A&I

Dade is one cool customer in national experiment

By GEORGIA TASKER
Herald Garden Writer

A cool community isn't a reflection of a city's rating on the trendiness scale, it's a measure of a community's reflectiveness. And it's a new program sponsored by the Environmental Protection Agency.

The idea comes from the non-profit American Forests organization in Washington, D.C., where Global ReLeaf was initiated. That nationwide tree-planting effort has been so successful that the EPA and the U.S. Department of Energy agreed to sponsor Cool Communities.

The theory is simple: Trees and light-colored surfaces can reduce the heat island effect of cities.

Dade may get cool

To demonstrate the cooling effects of planting trees and using white roofs, light-colored paints and concrete instead of asphalt, seven communities around the country will participate in the

Cool Communities five-year experiment. Dade County is one of these communities.

Now that Hurricane Andrew has destroyed much of our tree canopy and reforestation is in order, the Metro-Dade Department of Environmental Resources Management is deciding how to set up the project, which could involve single streets and whole neighborhoods, residential as well as commercial areas.

The voluntary program won't cost residents anything, but DERM and American Forests will ask permission to plant trees and paint roofs white, and FPL will monitor air conditioning use. DERM coordinator Susan Berryman said the county probably will apply for grants to pay for program; decisions are expected by mid-January, 1992.

By painting roofs white or light colors, their solar reflectivity is increased. Solar reflectivity, called the albedo effect, is a mea-

sure of how much we shine after the sun shines on us.

Maximizing the albedo effect of cities with light-colored surfaces on roofs, buildings and streets could reduce energy use by 30 to 50 percent, according to

American Forests. Air temperatures could drop five degrees. And energy needs could be reduced around the country — perhaps reducing the equivalent kilowatt-hour use of half a million people.

Of course, it all has to be demonstrated first.

In the first phase, trees will be planted and surfaces painted. Three years will be devoted to

PLEASE SEE COOL, 10HT

12/8/1992
Miami Herald

HOW TO LANDSCAPING

Cool, green are watchwords of experimental project

COOL, FROM 9HT

taking statistics and, in the final year, measurements, evaluations and publication will be completed.

Goals of the study

By the end of the five years, the organizers hope to know:

- How much energy can be saved with the combined tree/light surface combination?
- How many trees are needed and how much white surface is required for optimum energy savings?
- To what extent do trees and

By painting roofs white or light colors, their solar reflectivity is increased. Solar reflectivity is a measure of how much we shine after the sun shines on us.

peratures?

■ What are the costs and savings involved in different parts of the country? How much maintenance is involved and what will it cost?

The National Tree Trust is setting up a seedling nursery in South Dade, and some of these trees may eventually go to Cool

begun potting seedlings U.S. Navy personnel will maintain. The project is on Navy land along Card Sound Road. Oaks, bald cypresses, mahoganies and other shade trees will be grown, state forester Bill Theobald said.

Deflecting heat

The Florida Solar Energy Cen-

ter, and the Solar Energy Center has found this:

Lower solar absorption is better, and the Solar Energy Center has found this:

Reflective roof coating has a solar absorption rate of 0.20 to 0.30; white roof tile, 0.30 to 0.40; dark roof tile, 0.70 to 0.90; and dark asphalt shingles, 0.85 to 0.95.

The Lawrence Berkeley Lab in Berkeley, Calif., has data from measurements taken in Austin, Texas, that show a temperature difference of 70 degrees between white and black surfaces.

This difference doesn't apply

only to roofs. It occurs to a slightly lesser degree when comparing asphalt and concrete pavement surfaces.

In South Florida, where crescent-shaped driveways often consume large parts of front yards, black asphalt coatings increase the temperature around the house.

Driveways made of concrete squares or pavers that allow water to percolate between them will help nearby plantings and reduce air temperatures, too. Trees and shrubs planted between the drive and house can help block heat transfer and cool the paved areas.

The Miami Herald

SUNDAY, APRIL 24, 1994

CONTENTS COPYRIGHT © 1994 THE MIAMI HERALD

South Dade leaf relief Walk raises funds to replant trees

By **RICK HIRSCH**
Herald Staff Writer

Franca Berti liked playing in her back yard treehouse. Back when her South Miami yard had trees.

Ruth Ersoff enjoyed taking her students among the towering trees that circled her Cutler Ridge school. Back when Whispering Pines Elementary had pines.

James Marshall loved picking the oranges, grapefruits and mangoes he grew in his back yard in Richmond Heights. Before Hurricane Andrew picked them clean.

Berti, Ersoff and Marshall joined about 1,500 other nature lovers Saturday in a four-mile walk during a warm shower to mark Earth Day 1994.

The event carried a long name — the first annual Global Releaf Earth Day Walk for Trees — and a heavy agenda: reforesting a green region shorn of its color and cover by the winds of Hurricane Andrew.

Achieving that will take organization, money and time. Especially time.

"We are talking 30 to 50 years," said David Ettman, assistant director of Dade's Department of Environmental Resources Management.

Before Andrew, South Dade enjoyed 16 percent tree cover, Ettman said. Now, less than 6 percent has it made in the shade. Almost two-thirds of the trees in

PLEASE SEE WALK, 5B

LOCAL

The Herald

SECTION
SUNDAY,
APRIL 24, 1994

B

Nature lovers walk to bring back the green to South Dade

WALK, FROM 1B

the area were lost in the storm. Bringing back the green brought support from nearly 8,000 people who registered for the walk and generated more than \$50,000 for the program, said Nancy Masterson, southeastern regional coordinator for American Forests, the national conservation group that organized the event. Most were students at the 225 schools that signed up for the walk.

Franca, an Epiphany Catholic School seventh-grader, and about 20 classmates helped raise more than \$1,000 at their school. Franca, 12, said she came on a mission:

"I want to help rebuild the environment. It's part of us. We need to do something about it."

Another \$17,000 came in corporate contributions, Masterson said.

The money will pay for three major tree planting projects, two in residential neighborhoods and one in a preserve, aimed at saving the storied Dade County pine.

A special grant from walk sponsor AT & T will give Ersoff's Whispering Pines Elementary students something called a "living classroom," a course of study about history, science and the environment that comes with seedlings and cuttings to create a 23-tree grove of famous and historic trees.

Soon, Whispering Pines may be growing a tree from a Civil War battlefield or the home of an American president.



Two Dade neighborhoods — Richmond Heights and a planned 213-home Homestead Habitat for Humanity project in Princeton — will be planted as part of American Forests' "Cool Communities" program. The idea is to strategically plant trees to cut energy costs.

With the trees will come instructions on nurturing them. The Habitat project is expected to plant such native trees as live oaks, mahoganys, gumbo limbos and tabebuas, Masterson said.

In Richmond Heights, native

trees will be planted along major streets. At the request of homeowners like Marshall, who heads the area homeowner association, fruit trees will be planted near homes.

Richmond Heights lost almost all its trees in the storm. Since then, Florida Power & Light and American Forests have calculated average utility costs and will track bills at selected homes to figure out before- and after-planting energy use.

The most ambitious "releaf" project aims to save the Dade County pine, the hardy, round-topped slash trees that once covered virtually all of the high ground in the southern part of the county — 180,000 acres in all.

Development wiped out most of the pines, and Hurricane Andrew — combined with an insect epidemic that raced through South Dade after the storm — took care of the rest.

Now nearly all are gone. At Tamiami Pine Preserve, a 110-acre stand at Southwest 128th Street east of 137th Avenue, biologists have counted only a handful of living pines.

Foresters plan to seed the preserve from 33 bags of pine cones that were carefully gathered from the few surviving trees.

Some time next year, workers in a state nursery in Chiefland, Fla., will dry the cones on a wire rack, then shake the rack to sift out the seeds. Each seed will be planted in a plastic tube and grown in a greenhouse. Foresters expect they'll have to wait until 1995 to begin replanting.

The Miami Herald

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JAMES L. KNIGHT (1909-1991)

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Lament for the trees

Thieves extract much more than property from its victims. Phillis Wheatley Elementary students knew that even before giant jambolan plum trees in the school's courtyard were cut down.

The students have suffered in stifling classrooms for a month, ever since thieves apparently used the trees to climb onto the roof to steal air conditioner parts. Many windows can't be opened because they're covered with boards, aftermath of yet other break-ins.

Phillis Wheatley and other public schools in crime-ridden sections of Dade County *must* be the first beneficiaries of a \$10 million grant for safe schools awarded to the School Board by the Legislature. More's the pity that such a grant — or other aid — didn't arrive in time to save the courtyard's 50-year-old trees. They shaded classes held outside and provided a green haven.

Could the trees have been saved some other way? School principal Diane Paschal evidently thought not. It was her decision to remove them, but what alter-

SACRIFICED FOR SAFETY Why was a Miami school forced to choose between security and shade?

natives, if any, were provided by Dade school administrators? Tree removal is expensive. And the canopy surely lowered the school's cooling bill. The value of trees in urban settings shouldn't be underestimated. That was the message of a Global ReLeaf Walk for Trees in South Dade on Saturday, a kickoff to the annual Bayanza Festival. Dade School Board member Janet McAliley served as honorary chair of the walk, sponsored by American Forests, a conservation organization.

The event was a fundraiser to help restore South Dade's canopy, destroyed by Hurricane Andrew. American Forests' programs include the Cool Communities project, which encourages using trees and light-colored surfaces to reduce energy needs. Dade is one of the program's model communities.

Let's hope that Ms. McAliley's sensitivity to the practical and aesthetic values of trees brings some greenery back to Phillis Wheatley Elementary, too. This school has suffered enough already.

THE WLRN

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February 1994 Program Guide

NEW ON CABLE-TAP

COOL COMMUNITIES

For many years, scientists have been aware that city temperatures average two to fifteen degrees higher than the surrounding countryside. In the summer, this "urban heat island" is more than just uncomfortable — it costs up to \$1 million per hour in cooling costs and contributes to global warming.

Cool Communities, a new series sponsored by American Forests in cooperation with the U.S. Department of Energy and other

local partners, promotes energy conservation and outlines the effects of strategic tree planting and roof color whitening. The program explores how people think about the environment. Plus, it provides useful, applicable information to help people in Dade County understand the importance of saving

the environment.

Host Nancy Masterson and local experts show you how you can help cool the globe. Watch *Cool Communities* every Monday, Wednesday and Friday at 7:00 p.m. on Channel 35.

AMERICAN
FORESTS



Inside METRO

April 1994

Employees Join Walk in Effort to Restore Trees

by Charles Nicolas

Spring is in the air and that means that the dog-days of summer are right around the corner. Wouldn't it be great if there was a way to help cool-off our community! If the opportunity arose to lower the temperature, would you do it?

The answer to that question is a resounding YES if you are one of the many Metro-Dade employees scheduled to participate in the Global ReLeaf Earth Day Walk for Trees on Sat., Apr. 23, at 9 a.m. Many County departments have jumped on board the "improve the environment" caravan and have demonstrated their support for this walk.

"We will be helping to replant trees destroyed by the storm and make South Florida cooler, greener, and more beautiful place to live and visit," said David Ettman, Assistant to the Director, Metro-Dade's Department of Environmental Resources Management (DERM).

Volunteers from County departments such as Police, Finance, Transit, Housing & Urban Development, Building & Zoning and many others have all signed up to walk.

American Forests, an environmental group, and a host of cooperating organizations in the Miami area have organized the Walk. The goal of this Earth Day environmental benefit is to restore South Florida's cool, green canopy devastated by Hurricane Andrew.

The money raised by collecting pledges for the Walk will be distributed by the Global ReLeaf Fund to tree-planting projects in Dade County.

Selected as a participant in the Cool Communities program in 1991, Metro-Dade County has reduced energy consumption and "greenhouse" gasses through strategic tree planting and surface color lightening. Dade is one of only seven Cool Communities in the United States.

The Communities are designed to counter the "heat island effect" which is a rise in temperatures in urban communities compared to surrounding rural areas. Dade County serves as a model to thousands of other municipalities that are impacted by this effect. This program demonstrates the County's concerted efforts to cool-off an already warm climate.

"By planting shade trees, our community will help offset global warming by sequestering carbon dioxide and lower ambient air temperature in addition to beautifying the area," said Susan Berryman-Rodriguez, Carbon Dioxide Reduction Manager for DERM and County Recruiting Coordinator for the Walk.

Cool Community sites targeted for support include Habitat for Humanity's Homestead project and Richmond Heights. Funds derived from the Walk also support the restoration of the Tamiami Pine Reserve, an essential part of

Dade's 4,400 acres of unique and endangered pine rocklands that once covered approximately 180,000 acres.

The four-mile route will start from downtown South Miami and leads to a spot under the spreading live oaks of Matheson Hammock Park. Once reaching the park, walkers will be welcomed with an Earth Day celebration of displays and activities.

Join the hundreds of your fellow employees who have already signed

up for this environmental walk. Anyone can participate in the Walk, however individual members (those not sponsored by an organization) must raise at least \$12 dollars in pledges to take part.

After enjoying the music and healthy food at the Earth Day celebration at Matheson Hammock, you can take the free natural gas shuttle bus back to South Miami.

Call 372-6758 to sign up to walk. □

BAYNANZA
1994

From Shade to Shores



Celebrate Biscayne Bay

From Earth Day To May Day
(April 23rd thru May 1st)

Baynanza, an annual event that recognizes the importance of Biscayne Bay, is sponsored by Metro-Dade County's Department of Environmental Resources Management and other local environmental groups.

Events during the week-long celebration this month include, free boat tours, interpretive walks in the seagrass beds, the Coconuts Festival at Haulover Park, moonlight canoe trips, and sunset beach walks. Call 372-6770 for details.

Environmental Aware News

A Supplement to the C.E.O. * Report

SPRING 1994

From Shade to Earth: Walk for Trees Kicks Off Baymanza Celebration

ON SATURDAY, APRIL 23, 1994, the Global ReLeaf Earth Day Walk for Trees will showcase environmental information as thousands of South Floridians walk four miles from downtown South Miami to Dade County's Earth Day Celebration in Matheson Hammock Park. Sixteen environmental and civic organizations, including Group 11 of 1993-94 Leadership Miami of the Greater Miami Chamber of Commerce, are coordinating the Walk, which aims to raise money to replant the trees lost to Hurricane Andrew and restore South Dade's cool, green canopy

The Walk For Trees is the kick-off event for

Dade's month-long Baymanza celebration. As Dade's first environmental walk, interpretative markers and eco-facts will line the route.

Global ReLeaf, the national action and education arm of American Forests, helps local groups plant and care for trees. Funds will be used to plant at Cool Communities demonstration sites in Richmond Heights and at the Homestead Habitat for Humanity's new project in Princeton, Florida. A portion will help restore slash pines to the Tamiami Pine Preserve in South Dade. Additionally, community groups throughout Dade County can apply to the Global ReLeaf Fund for their own tree-planting projects.

GMCC member companies can play an important role as sponsors of employee Walk Teams. It's a great opportunity for your employees to show your support for making South Florida a cooler, greener community in which to live, work and play. Minimum pledges to register for the Walk start at \$12. Sixty dollars raised in pledges earns an official Walk T-Shirt.

For more information about corporate sponsorships, or to register for as an individual or as a corporate Walk Team, call 1-800-545-TREE.

NEIGHBORS

COVERING YOUR COMMUNITY

The Miami Herald

THURSDAY
JULY 14, 1994

THURSDAY, JULY 14, 1994, THE HERALD 3

Dade shade: Homeowners pledge to care for trees

By ANA ACLE CHABKO
Herald Staff Writer

Richmond Heights homeowner Kathy Wilson says her community deserves the rich look that trees can provide.

So Wilson, who has lived in the area all her 25 years, is adopting a tree for her community — even though it's not on her property.

"I'm still willing to devote my time and energy," she said.

The trees are coming next month: Richmond Heights has been selected as a demonstration neighborhood for a project that will try to show that strategic tree planting can reduce global warming.

About 50 interested residents attended a meeting on the matter Monday night. Many felt the way

'I was hoping for a shade tree on my house. I'll help somebody else's tree in hopes that next time my street will be chosen.'

DORA ANDERSON,
Richmond Heights resident

Wilson does: They'll do anything for trees.

"I was hoping for a shade tree on my house," said Dora Anderson, a 46-year resident. "I'll help somebody else's tree in hopes that next time my street will be chosen."

The national project is called the American Forests' Cool Communities program and is in partnership with the U.S.

Department of Energy. President Bill Clinton has announced that he wants to reduce emissions from greenhouse gases by the year 2000 — and planting trees is one method he suggested.

In Richmond Heights, mahogany, gumbo limbo and live oak trees will be planted in two places: in residents' yards and in the public rights of way.

More than 300 trees will be planted in the public rights of way on both sides of Lincoln Boulevard, Harrison Street, Buchanan Street and Southwest 107th Avenue. Also, 200 homes in the community will get three trees each. Residents will be asked to water, fertilize and take care of the trees.

One homeowner, who did not identify himself, said he was concerned that drug dealers would loiter around the trees and use them as stashes for drugs.

"I know several trees were cut down because of that," the man said. "We have to have some way to control that."

Wilson believes that won't be a problem this time. Most of the trees, she said, will be placed close to homes, and people would

be more inclined to call police.

The American Forests' Cool Communities program deliberately plants trees close to homes. The organization believes that placing trees in areas where the sun shines the most can provide shade and reduce the temperature in the house by several degrees. Just how much, no one knows until the trees are planted and information is collected.

The trees should be planted by late August, and trees will only go to residents who adopt them and pledge to take care of them, said George Baldwin, a community leader.

"The real reason why we're here is for the environment, the Earth," said Nancy Masterson, Southeastern regional coordinator for American Forests.

Tree planting program for Richmond Heights

The Richmond Heights Homeowners Association and the national non-profit conservation organization American Forests will hold a community meeting on Monday, July 11, at 7 p.m., at Richmond Heights Middle School, 15015 SW 103rd Ave. to present major tree planting programs planned for this South Dade neighborhood.

Richmond Heights has been selected as a demonstration neighborhood in American Forests' Cool Communities program, in partnership with the U.S. Dept. of Energy. The project will try to prove the strategic tree planting and surface color lightening can help reduce global warming.

Projects to be covered at the July 11 meeting include

■ **Street trees:** Two Florida Division of Forestry Hurricane Andrew Urban Reforestation grants have been awarded, totalling almost \$70,000, to plant more than 300 street trees—live oaks, mahoganies and gumbo limbos in the public rights-of-way on both sides of Lincoln Boulevard, Harrison Street, Buchanan Street and SW 107th Avenue. Residents on these streets will be asked for their permission to plant a tree between the sidewalk and the street, their commitment to water, fertilize and take care of the tree and their help on each block's tree planting day.

■ **2. Shade trees on Cool Communities blocks:** Approximately 200 homeowners will be asked to participate in a research study that involves planting shade trees around their homes to help cool the house and the yard. Residents in the Cool Communities blocks are projected to save money on air-conditioning as the trees grow. Monitoring and measurement will be provided by Florida Power & Light.

■ **Job training:**

Another grant has been secured to offer a certification course in Environmental Horticulture. The classes, taught by Robert Morgan Vocation Technical Institute, will be held at Richmond Heights Middle School and will provide job training in plant growing, processing and marketing, equipment, pesticide and fertilizer application and other topics that lead to employment in agribusiness.

For more information, Richmond Heights residents may call George Baldwin, chairman of the Tree Committee of the Richmond Height Homeowners Association, at 235-7751 or 232-2209, or visit the Association office at the Home-

Communities projects. President Clinton's Climate Change Action proposes to expand it to 250 cities and 100 military bases by the year 2000. Other demonstration neighborhoods in Dade include the City of South Miami, the proposed Jordan Commons community to be built by the Homestead Habitat for Humanity and Weitzer Hammocks in West Kendall.

American Forests' Cool Communities project in Dade is overseen by a local advisory committee of 18 public agencies and private organizations.

Thursday June 30, 1994
Miami Times

Trees used to teach residents

Program examines shade, energy costs

By ANA ACLE CHASKO
Herald Staff Writer

Hurricane Andrew blew away trees, and then government grants helped to replace them. Now, the state is taking another step: teaching the art of tree care.

A free job-training course in environmental horticulture is being offered beginning Monday at Richmond Heights Middle School, 15015 SW 103rd Ave.

Anyone interested in learning about tree care and equipment operation and job opportunities in the field can attend. Classes run from 6 to 9 p.m. Mondays through Thursdays and Saturdays for 24 weeks.

The course is taught by professors from the Robert Morgan Vocational Technical Institute. Completion of the course means getting a certificate.

Students will learn about plant growing and processing, equipment operations, pesticide and fertilizer application, and tree care.

The job training is being offered through a grant from the Florida Division of Forestry Hurricane Andrew Reforestation Grant Program. Richmond Heights was selected as one of four demonstration neighborhoods in the American Forests' Cool Communities Program.

The program, a partnership with the U.S. Department of Energy, will try to prove that strategic tree planting and lighter house-paint colors can reduce energy costs and urban temperatures.

Residents of Richmond Heights have adopted trees in their neighborhood that have been strategically planted to shade homes from summer heat. By working with the five-year program, residents must take care of their trees. Data on energy costs and savings will be collected.

No, have not been planted yet.

The Miami Herald

COVERING YOUR COMMUNITY

NEIGHBORS

KENDALL ■ SOUTH MIAMI ■ CORAL GABLES ■ RICHMOND HEIGHTS ■ SUNLAND ■ WEST KENDALL

JANUARY 8, 1995
SUNDAY

KENDALL ■ SOUTH MIAMI ■ CORAL GABLES ■ RICHMOND HEIGHTS ■ SUNILAND ■ WEST KENDALL

NEIGHBORS

COVERING YOUR COMMUNITY

The Miami Herald

THURSDAY
JUNE 22, 1995

Cool idea: Plant trees in Heights

You can dig in
for a greener area

Volunteers are needed to help Richmond Heights get greener.

Bring a shovel to plant trees at 9 a.m. Saturday at Walter White Park, 14600 Buchanan St. About 70 gumbo limbos will be planted along Buchanan Street from Coral Reef Drive to Southwest 146th Street.

The community tree-planting program is part of a hurricane restoration grant from the Florida Division of Forestry, which calls for tree-planting designs that will cool neighborhoods and conserve energy in homes.

The program, a partnership with the U.S. Department of Energy, will try to prove that strategic tree planting and lighter house-paint colors can reduce energy costs and urban temperatures. Homeowners near the trees have promised to water and care for the trees for five years.

Richmond Heights was selected as one of four demonstration neighborhoods in the American Forests' Cool Communities Program. If the program is successful, other neighborhoods will benefit from the data collected by American Forests workers.

Holes will be dug by machines but volunteers should bring a shovel with the owner's name on it. Dress for yard work and wear sturdy shoes, hat and sunscreen. Residents along Buchanan Street will provide cold drinks.

— ANA ACLE CHASKO

Street
Trees
will

From: Kay Flynn
To: Don Strickland
Subject: Docket No. 941170-EG

====NOTE===== 9/27/95 1:59pm=====

Don, please place the following name on the mailing list in this docket:

Nancy Masterson
American Forests
c/o Metro-Dade DERM
33 S.W. 2nd Avenue
Miami FL 33130

This is in response to a conversation Roland Floyd had with her regarding the docket. Thanks. Kay



Public Service Commission

-M-E-M-O-R-A-N-D-U-M-

DATE: July 10, 1995
TO: Blanca Bayo, Division of Records and Reporting
FROM: Charles Rehwinkel, Assistant to Commissioner Deason *CR*
RE: Intercepted Communications From an Interested Party Received in Docket No: 941170-EG

This office has received the following correspondence. The correspondence has not been viewed or considered in any way by Commissioner Deason. Under the terms of the advisory opinion from the Commission on Ethics (issued July 24, 1991 as COE 91-31-July 19, 1991), the following letter does not constitute an ex parte communication by virtue of the fact that it was not shown to the Commissioner. Because it is not deemed to be an ex parte communication, it does not require dissemination to parties pursuant to the provisions of Section 350.042, Florida Statutes. However; in such cases Commissioner Deason has requested that a copy of the correspondence and this memo be, as a matter of routine, placed in the correspondence side of the file in this docket.

CJR/mm

RECEIVED
SEP - 1 1995

FPSC-RECORDS/REPORTING

August 29, 1995

RECEIVED
SEP 1 1995
Florida Public Service Comm.
Commissioner Deason

In Re: Motion in Opposition to "Petition on)
Proposed Agency Action" of Donnie Nolley)

Docket No. 941170 - EG

I am writing in regards to Florida Power & Light Company's motion in opposition to the letter sent by Donnie Nolley dated June 28, 1995. I read all of the pages of the motion and would like to voice my opinion on this issue.

Mr. Nolley does not have the resources to hire a large law firm to do what you are asking, unlike the electric company. He understands solar and conserving energy. He has been selling solar for more than six years, now. He promotes all of the utility company's rebate programs: window tint, air conditioning, duct test and repair, on call box, and solar hot water. His livelihood depends on marketing and selling solar energy programs to homeowners.

As a consumer, I wonder why "Bob," the electric company's television advertisement, does not promote solar. Even though the solar industry won with the Public Service Commission a year ago, solar is not mentioned in public advertisement.

Donnie Nolley has been promoting energy conservation through Free Energy Survey. He has taken courses and training in energy auditing, even courses from the electric company. He did this so he could give fair and objective energy audits.

How can it be justifiable that solar doesn't work? How does it not fit into the energy conservation programs? Solar is a free source of energy; it is energy conservation at its cleanest and best. Once the equipment is paid for, homeowners will have hot water free of monthly electric expenses, or at least 85% free hot water.

When you talk to people at the Federal level, they will tell you that solar works. The people Mr. Nolley has talked to from the energy department recommend that you don't even use electric hot water heaters. They suggest that when it is time to replace the hot water tank, you change to solar.

All Mr. Nolley is asking is that the electric company treat the solar water heating program as equally as they treat heat recovery units. I find it hard to believe that the electric company cut the heat recovery program to \$35.00 and now, with the new proposal, they want to raise the heat recovery program and cut out solar. Mr. Nolley has called the heating and air conditioning

manufacturing companies; their engineering department revealed that once you change to a high efficient air conditioner and heat pump, the heat recovery unit does not work as efficiently.

Mr. Nolley is not as concerned that the electric company is removing solar from its rebate program; money is not the real issue. Promoting solar is the real issue. Having "Bob" talk about solar in the electric company's advertisement, having the energy auditors support solar the way they support other programs. The electric company's auditors do not mention solar as an alternative energy source. They even go so far as to discourage homeowners from using solar energy. Solar energy needs to be recognized as a viable source of energy.

To sell solar energy to a residential homeowner, you need financing, quality equipment and shipment, and you need the support and endorsement of the electric company. Solar has never gotten this endorsement.

The electric company has been adamant in trying to stop Donnie Nolley from promoting solar energy use. Mr. Nolley had to change the name of his company, originally Utilities Saver, because the electric company said that customers thought he was from the electric company. He had to change his company name to Free Energy Survey. He owns an independent company that provides free energy surveys to residential homeowners, recommending all energy conservation programs.

What the electric company has done in the northern district is sad. They have run off most of the solar hot water companies. Pool solar is the only thing sold, because they don't want to hassle with the electric company.

The Public Service Commission's decision to approve the Demand-Side Management Plan without a program promoting the use of solar energy, is telling a whole generation of individuals that solar energy does not work. We do not believe this. With the endorsement and promotion of solar energy by the electric company, solar energy use can be successful and cost-effective. The Public Service Commission is allowing the electric company's energy auditors to go out and tell the public that solar energy does not work, even after the Public Service Commission had recommended that the solar program stay.

Mr. Nolley has been a contractor on the electric company's solar hot water and window tint programs. He would receive between 60 and 100 calls per year on window tinting from homeowners who had received an energy audit by the electric company, but he never received a single phone call regarding solar hot water heating. Discussions with three other solar companies reveals that they have never received a call on solar energy use after the electric company has done an energy audit. The electric company has never recommended solar. When asked by homeowners

about solar hot water heating, the electric company representatives suggest that you don't use solar. The electric company has not been fair in promoting solar hot water heating and that can be proven. If a customer has an on call box, they have to call and disconnect the box before they can get solar. When customers call the electric company, they are told lies and discouraged from getting solar. Then the customers cancel their solar order.

How can we think that solar is not something we need in Florida, the Sunshine State? Other states like North Carolina and Wisconsin realize the importance of its use. They are introducing new programs to the public, promoting solar energy use. North Carolina is offering a state tax credit to convert from electric and gas to solar energy when heating one's house and hot water. We know solar works.

How can we justify increasing the rebates on other programs like heat recovery to make them look more appealing while totally negating the benefits of solar energy through non-promotion? The amount of rebate is not as important as the recommendation by the electric company. Energy auditors could leave stickers on the hot water tank suggesting that when the tank needs to be replaced the homeowner should consider solar. Promotion is as simple as the electric company saying, "Yes, solar is an energy resource that works," when homeowners inquire.

The public is very interested in energy conservation. Not everyone wants solar but a lot more people would if they were aware of it. Right now, the Florida Solar Energy Center goes around to schools trying to educate children about conserving energy and the use of solar energy. Awareness leads to Action. These children, when they grow up, will look for solar homes. Don't let the electric company teach our children that solar doesn't work. Every power company should be promoting solar energy use.

Respectfully

Rosellen Meek

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that true and correct copies of the response to FPL's Motion in Opposition were mailed this 30th day of August, 1995 to the following

Ms. Julia Johnson
PSC Commissioner
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Mr. Joe Garcia
PSC Commissioner
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Ms. Susan Clark
PSC Commissioner
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Dr. David L. Block
Director
Florida Solar Energy Center
1679 Clearlake Rd
Cocoa, Florida 32922

Mr. Terry Deason
PSC Commission
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Ms. Diane Kiesling
PSC Commissioner
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Ms. Colleen Kettels
Director
Florida Solar Energy Industries Assoc
6208 W. Corporate Oaks Drive
Crystal River, Florida 34429

FREE ENERGY SURVEY

August 29, 1995

I, Donnie Nolley, owner of Free Energy Survey, am interested in obtaining copies of the data presented to the Public Service Commission by Florida Power and Light in the proposal of the Demand Side Management Program. I'm concerned that all parties involved were not fully represented in the electric company data. Just last year the Public Service Commission believed that solar hot water was a valuable part of the load management program. What could have caused the Public Service Commission to reverse its decision on the effectiveness of solar hot water?

I do energy surveys in the northern district of the electric companies energy programs and I can prove that the electric company has not promoted the solar program. They have not treated this program like they treat all the other energy conservation programs. What bothers me is that if the public really knew that solar was part of the energy program there would be a demand for solar hot water. There was never a questionnaire given to all the electric companies customers asking them if their is an interest in solar. Most customers don't even know their is a program for solar hot water.

I have never hired an attorney but I feel very strong about this issue and I will continue to fight for this program to be treated fairly. I will look to the state and federal people to help and advise me on this matter if needed. I can't believe that the electric company convinced the Public Service Commission that solar is not an answer for the state of Florida.

I, would like to have the opportunity to speak with the Public Service Commission about the continuation of solar hot water in the electric company's load management plan. I am concerned that the public has not been provided with enough information to express their opinion and to make an informed decision on the value of solar hot water. I look forward to receiving any information presented to the Public Service Commission that will help me understand the reason for the Public Service Commission's decision.

Thank You,
Donnie Nolley
Donnie Nolley
Free Energy Survey

Heat wave helps fuel power crisis

HEAT, From 1A

Employee Lisa Pope, hot and a little harried from serving customers, said people had been waiting in line all day for a cool cone.

"We have been really busy," Pope said. "In fact, I can't really talk because we are so busy."

While residents licked ice cream cones and hid in air-conditioned buildings, Florida Power & Light Co. worked to keep them cool despite the loss of five of the company's 34 generating units.

To keep up with demand, FPL is asking customers to conserve energy throughout the week, spokeswoman Kathy Scott said.

Among the suggested conservation measures:

- Raise thermostat settings to 80 degrees.

- Close curtains and blinds to help insulate homes and offices from cooling loss.

- Avoid using room air conditioners; turn them off when you leave the room.

- Avoid using major appliances from noon to 7 p.m.

In addition to the appeal for conservation, the company also is implementing its load management program for participating residential and commercial customers, Scott added.

The program — On Call — allows FPL to turn off major appliances such as dishwashers, air conditioners and water heaters on a pre-arranged basis, saving customers money.



AP

LONE SURFER was among hordes who flocked to the beach in Jacksonville and other cities along Florida's coast Tuesday. They were taking advantage of enormous swells created by Hurricane Felix and escaping blistering heat that has gripped much of the state. The high temperature in Jacksonville was 100 degrees. Hurricane Felix, 1A.

If the utility still cannot meet customer demands, FPL may resort to rolling blackouts — periodic interruptions of service designed to keep up with demand, Scott said.

Repairs were being made to the five generating units out of service Tuesday. Without the units, Scott said the company was operating with one-third less power.

"We couldn't even buy power from another company because of the high temperatures across the Southeast," Scott said.

Melbourne's high of 94 seemed mild compared with parts of northern Florida, where temperatures reached 100-plus degrees.

It was the second consecutive day of record-breaking heat Tuesday in Apalachicola and Lakeland. Apalachicola set an all-time record of 103 degrees, breaking a 1932 record by 1 degree and shattering the daily record of 92 set in 1965. On

Whom to call

For information on Florida Power & Light's On Call program, call 631-2000

Monday, a 96-degree reading in the Panhandle city broke a record set in 1943 by 3 degrees.

Lakeland's high of 100 degrees Tuesday broke a 1984 record by 3 degrees, one day after it hit 99 degrees Monday, which broke a 1933 record also by 3 degrees.

And more records were broken elsewhere in the Southeast, including 103 at Montgomery, Ala., 101 at Birmingham, Ala., 97 at Knoxville, Tenn., and 96 at Greenville, S.C.

Local residents hoping the heat will ease soon will be disappointed,

Hot tips

Officials with the American Red Cross offer the following tips for dealing with excessive heat:

- Drink plenty of water regularly, even when you don't feel thirsty. Beverages with caffeine or alcohol don't cool the body as well as water.

- Eat small meals and eat more often, but avoid high protein foods, which increase metabolic heat.

- Avoid using salt tablets unless directed by a physician.

- Pay attention to the body's warning signals, such as heat cramps or muscular pains and spasms.

- Heat exhaustion occurs when work or heavy exercise is overdone in the hot weather, and heavy sweating causes a loss of body fluids. A mild shock can result and worsen, if not treated.

- Heat stroke, also called sun stroke, occurs when the body temperature continues rising and is life-threatening.

officials with the Weather Service Office in Melbourne said.

The forecast through Saturday calls for partly cloudy skies with highs in the low to mid-90s.

The Associated Press contributed to this report.

Some like it hot - but not *this* hot

By PHIL LONG
And JOHN LANTIGUA
Herald Staff Writers

The National Weather Service issued a heat alert for parts of Florida on Tuesday and said it expects scorching temperatures to continue for several days.

Florida Power & Light, which serves half the state's citizens, is expected to continue its plea for conservation of electricity today between the peak usage hours of

noon and 7 p.m. The company, which has five of its 34 generators down around the state, had warned if demand didn't decline it might have to use rotating blackouts to cut usage.

FPL officials said they wouldn't know until Tuesday night if the voluntary plea had worked.

Bill Swank, FPL spokesperson, said Mother Nature is fortunately lending a hand to ease the

strain that has led to near record demands. Rain showers in Dade and Duvall counties helped ease the strain on the state's fragile electric system.

"The rain has helped things here in Dade and we've been able to buy a little bit of power" from Georgia, Swank said.

Clouds and drizzle in Jacksonville helped drop the demand for electricity slightly, freeing some North Florida power for move-

ment into South Florida.

"The hot weather over the whole South is really creating a heavy demand for electricity in every system," Swank said.

Tallahassee registered a high temperature of 102 degrees at 3 p.m. and, combined with humidity, that created a heat index or "feel-like temperature" of 114.

The National Weather Service

PLEASE SEE POWER, 8A

Some like it hot - but not *this* hot

Heat alert may last a few days in parts of state

POWER, FROM 1A

issued a warning that the heat index was likely to produce "feel-like temperatures" over 110 degrees in 24 North Florida counties. That area stretched from the Georgia border, down to Flagler Beach on the east coast, west to Suwannee on the Gulf Coast and northwest to Panacea in the Big Bend area.

'Time to take precautions'
"When the index gets up there above 105 or 110 its time to take precautions," said Bob Ebaugh, National Weather Service specialist based in Miami. Miami saw a high temperature of 95 degree at 1 p.m. and high heat index of 104. Broward's high was 94 at 1 p.m. and had a heat index of 105 degrees.

Florida's 20 electric utilities, including FPL, can produce about 36,100 megawatts, enough power for nearly 11 million homes. As of Tuesday, the state had 3,754 megawatts of reserve, said Ken Wiley, spokesperson for the Florida Coordinating Group, an association of the state's 20 power producers.

"When the weather gets this hot, we worry," Wiley said. FPL has about 395,000 residential customers — 10 percent of the total customers — who receive lower rates in exchange for letting FPL cut off their air conditioners, hot water heaters or pool pumps, for short periods of time in conservation situations like today, Swank said. It is called the "on call" program. Beyond that, 380 of the company's biggest business customers can be called on to cut back and begin using their own generators for minimal power needs, Swank said.

'On call' complaints
FPL received some complaints



PHIL COALE / Tallahassee Democrat

COOL DOG: This puppy decided to take refuge in his water bowl at the Tallahassee-Leon animal shelter.

When the weather gets this hot, we worry.
KEN WILEY,
Florida Coordinating Group,
an association of 20 power producers

"But our A/C was out for three hours yesterday. My wife and daughter had to leave the house. I've complained to the Public Service Commission."
Swank said the agreement also contained a provision for longer outages in case of emergencies. "And this was definitely an emergency today," he said.

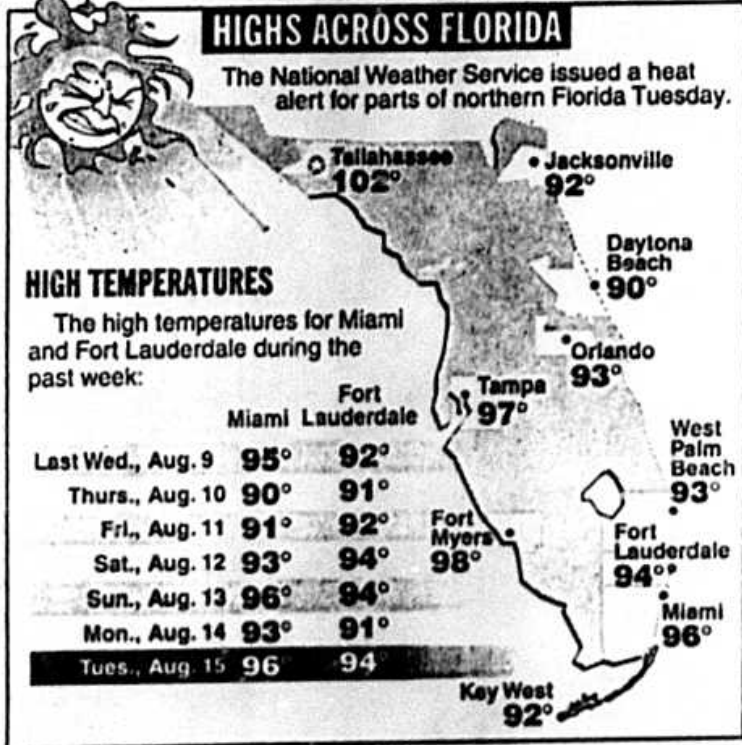
With five units out Monday, FPL had lost 2,807 megawatts of its 18,160 megawatt generating capacity, Swank said. A megawatt is the amount of power required to operate 300 average size homes.

One of the affected generators, Manatee 1 on the west coast, was partially back on line Tuesday evening. The 798-megawatt turbine had been out since the weekend with a voltage regulation problem. By Tuesday it was back up to about 600 megawatts.

Caution urged
Doctors urged caution. "People should spend no more than 10 minutes per hour outside in strenuous exercise," said Dr. Ron Fuerst, an emergency room physician in one of North Central Florida's busiest hospitals: Shands Teaching Hospital in Gainesville.

"The real key is to drink plenty of fluids," added Dr. Landis Crockett, assistant state health officer at the Florida Department of Health and Rehabilitative Services in Tallahassee.

"People should stay in the shade, find places where there is a little circulation of air, keep themselves in front of a fan if they don't have air conditioning," Crockett said. "... and wet themselves down a little if the air is really hot."



Monday and Tuesday from homeowners who have agreed to that "on call" program. "The agreement I signed said they would cut our air condition-

ing at home for no more than 15 minutes per half hour," said attorney Lloyd Granet of Miami.

Sun shines on new solar center

By Chris Evans
FLORIDA TODAY

The strikingly bright, multicolored building rising at Brevard Community College's Cocoa campus constantly elicits curious glances and puzzled faces.

By the dozen, passersby say they want to know what the heck the thing is.

"To my understanding," said Chanel Gaines, a neighborhood resident and in-the-know former BCC student, "that is supposed to be the solar energy center."

"It used to be at Cape Canaveral. That's what I heard. And the rumor is, it's supposed to be opening before Christmas."

The rumors are true but understated.

The Florida Solar Energy Center, now at Cape Canaveral, is scheduled to open its \$7 million building with great ceremony in mid-September. When it does, it will make Cocoa the home of the nation's premier state-owned solar research center.

The internationally renowned facility, among the world's top research centers for energy efficiency, is an especially significant resource to energy-poor developing nations, officials said.

"There's basically no equal," center director David Block said.

Research includes testing of solar cells, which convert sunlight to electricity, and applying energy-saving technology — something center officials say they did in building their new facility.

Among the building's hyper-efficient traits:

- "Superwindows" specially coated to allow 65 percent of visible light but only 2 percent of heat-producing infrared light to enter the building.

- Bright, white roof panels that reflect the sun's rays.

- A fan-powered air exchange system that moves air between the building core and perimeter, which will reduce the need to alter the air's temperature as much as in regular cooling systems.

- Various light-related measures that will reduce energy use by more than 50 percent. Those include skylights angled to the north, allowing the least-direct sunlight to enter the building, and sensors that turn off a room's lights when it is empty and that change the lighting level depending on how much sunlight is present.

Center information

The new Florida Solar Energy Center will open to the public in mid-September. Hours: 10 a.m. to noon and 1 p.m. to 4 p.m. Monday through Friday except holidays. Admission: Free, but donations accepted.

These and other features will hold the annual electric bill to around \$30,000, compared to \$100,000 for a regular 72,000-square-foot building, solar energy center spokeswoman Ingrid Melody said.

"We want this building to be a living demonstration of energy efficiency," she said.

And, sure that they have an impressive building, center officials want to show it off.

The entrance of the new building will boast a mini-museum of energy efficiency. With that attraction, and the facility's more central location, officials hope to lure up to 10 times the 5,000 to 6,000 visitors they currently receive each year.

"We're probably better known nationally than we are here," Block said.

Block and his 150 staff members had hoped to begin moving into the new building last week. However, because of damage at the Cape Canaveral facility caused by Hurricane Erin, they won't begin the move before Aug. 21, Melody said.

Nonetheless, the moving process marks the end of more than five years of planning to move the center from its current home on U.S. Air Force land to BCC, which already shares space with the solar center's parent institution, the University of Central Florida.

The solar center has been on Air Force property since Florida legis-

lators created the facility in 1975 with seven staff members and a \$1 million annual budget. Vacant Air Force buildings in the post-Apollo era helped bring the center to Brevard, Melody said.

When legislators approved the idea of a solar energy center in 1974, Miami and Gainesville were strong contenders to serve as the center's home, Melody said. However, Cape Canaveral won, partly because of the existing buildings that were ready for use. Then, in the late 1980s, the military decided it wanted to take back its property, and solar center officials started looking for a new home.

The search ended at BCC, where Orlando-based UCF already had a major presence, and where BCC officials were excited to promote their Cocoa campus as a "Circle of Science," with the solar center, BCC's state-of-the-art planetarium and a new BCC/UCF library.

"This location allows us to tie into the educational network ... that we never had before, because we were kind of isolated," Block said.

The relocation is all the more significant because earlier this year, the center faced the possibility of losing all funding after the state Senate told universities to cut costs by 25 percent.

The center's annual budget stands at \$7.69 million. About \$3 million of that comes from the state university system, but the rest comes mostly from federal contracts tied directly to state matching money.

Brevard residents asked to continue

FLORIDA TODAY, Thursday, August 17, 1995

3B

power conservation

By Kathy Reakes
FLORIDA TODAY

As the state's hot spell ebbed slightly Wednesday, Florida Power & Light officials asked residents to continue conserving energy.

Five broken generating units that supply more than one-third of the company's power along with the high temperatures prompted the company to ask customers Tuesday to cut back on power use.

"We still need customers to cut back," said FPL spokesman Bill

Swank. "Ideally, people will conserve as long as the high temperatures exist."

A large response to the conservation appeal helped the company limp through Wednesday as employees worked to repair the broken generating units, Swank said.

Energy conservation suggestions include raising thermostats to 80 degrees, closing curtains and blinds and turning off or reducing use of all non-essential electric appliances.

Besides residents, local business-

es also are helping to conserve.

Harris Corp. in Palm Bay and Melbourne cut their power usage by two-thirds both Tuesday and Wednesday by switching to generator power.

"We are part of FPL's load-sharing program," spokesman Jim Burke said. "As soon as we received the call to conserve, we cut back at several facilities and completely closed down one building Tuesday and Wednesday afternoon."

The company also works year-

round to help reduce energy use by being a member of the state Green Light's Program that calls for reduced wattage in light bulbs."

All across the state, the heat index — the "feels-like" temperature — was even higher, but the state's top weather watcher said the hot spell should be starting to cool.

"I think the heat wave reached its peak yesterday," state meteorologist Mike Rucker said Wednesday.

"Tallahassee may come down from 103 degrees yesterday, to 100

today and maybe 97 tomorrow," Rucker forecast. "That's because a little more of a breeze is coming down from Hurricane Felix (bearing down on the Carolinas), and then the afternoon thunderstorms are coming back in the picture."

Officials with the National Weather Service Office in Melbourne said a westerly wind pattern over the state will continue to bring abnormally hot temperatures for the rest of the week.

A heat alert remained in effect

Wednesday for nearly 30 counties across North Florida and much of the Panhandle.

Rucker said state officials knew of one death attributed to the heat: 27-year-old Alvin Carter of Lake City, who was working at a plant nursery in Suwannee County when he passed out and died.

North Florida hospitals and clinics reported treating dozens of people for heat-related ailments such as heat stroke and stomach cramps.

Florida Tech professor primes old energy source

Experiments try
to glean more
from sun's rays

By Billy Cox
FLORIDA TODAY

On the wall outside the office of Ryne Rafaele, photovoltaics detective, a classic picture in the hallway illustrates the mystery's allure.

Without a shred of visible support, a black cube levitates

above a flat surface.

Never mind that this event could never occur with room-temperature forces, that the cube is a specially fabricated superconductor, that it is suspended by the unnatural conjunction of liquid nitrogen boiling at minus 196 degrees Centigrade, over a rare earth magnet.

Image is everything: We can make objects hover in mid-air.

But if the image burns simplistic expectations into the terrain of the imagination, those expect-

tations are not altogether outlandish, either.

When the subatomic highways are greased to eliminate traction and resistance, an entirely new universe of energy unfolds. The study of photovoltaics challenges scientists to harness that power for practical applications and make it affordable. The pioneers will be rich beyond their wildest dreams. If they can leach that power from the sun, and the entire world takes a new shape.

See PROFESSOR, 5E



Michael R. Brown, FLORIDA TODAY

RYNE RAFAELE, a physics professor at Florida Institute of Technology, works to squeeze more energy from the sun.

Energy Conservation Measures

There are measures you can take to reduce energy use. Suggested measures and estimated one-year savings for typical Florida homes:

Measure	Estimated Annual Savings
Cooling and Heating	
• Replace central air with more efficient system	Up to 25% on cooling costs
• Replace electric resistance heating with electric heat pump or gas furnace	45% to 69% on heating costs
• Replace furnace burner	Up to 12% on heating costs
• Replace inefficient furnace	14% to 39% on heating costs
Water Heating	
• Install solar water heating system	Up to 68% on water heating costs
• Install heat recovery water heating system	Up to 16% on water heating costs
• Install heat pump or gas water heating system	46% to 69% on water heating costs
• Wrap water heater in insulation blanket	Up to 5% on water heating costs
Insulation	
• Insulate ceiling (based on R-8 insulation already present)	6% to 10% on heating and cooling costs
• Insulate walls (no insulation at present)	6% to 13% on heating and cooling costs
• Insulate exposed ductwork and pipes	4% to 13% on heating and cooling costs
• Insulate floor (crawl space or floor over unconditioned area)	Up to 9% on heating and cooling costs
Weatherization	
• Caulk window and door frames	Up to 1% on heating and cooling costs
• Weatherstrip doors and around movable window parts	Up to 1% on heating and cooling costs
• Install reflective solar film, solar screens or shutters on windows and glass doors	1% to 16% net savings on heating and cooling costs
• Install storm windows	3% to 9% on heating and cooling costs
• Install plastic window panels	3% to 9% on heating and cooling costs
General	
• Install clock thermostats	26% to 44% on heating costs; 10% to 13% on cooling costs (assumes thermostat set 10° F up in summer/down in winter year-round during night-time hours)
• Install load management devices where load management rates are offered	Up to \$161 credit on electric bill per year
• Replace pool heating system with solar swimming pool heating (where present heating is non-renewable resource)	50% to 100% on pool heating costs

Note: Energy savings depend on many factors. The savings for the conservation measures and practices in this insert are based on estimates for typical homes in Florida. Your costs and savings may differ, depending upon the size and type of home, family size and energy use habits. The savings listed for each item are based on making just that one change to an average home. Therefore, the overall impact of making several improvements cannot be determined by adding the percentages in the estimated annual savings column. FPL's \$15 energy conservation audit will provide estimates for your home.

FPL New Rebate
\$175 For Heat
Recovery
ANA \$0 For SOLAR

management systems that automatically adjust for variation in energy service requirements. Change out of poorly performing constant volume systems with electric reheat to variable-air-volume systems with high efficiency chillers is often prudent for older systems in need of repair.

Space heating typically accounts for less than 1.2% of average annual energy costs. Reduce its cost through better wall and ceiling insulation and control of indoor-outdoor air flows. Increasing the Heating Season Performance Factor (HSPF) of electric heating systems or the Annual Fuel Utilization Efficiency (AFUE) of gas heating systems can substantially reduce heating energy use. New systems should have HSPF of 6.8 or greater or AFUE of 0.78 or greater. Again, air distribution duct systems should be leak-free and energy management systems should be considered.

Ventilation for indoor air quality can comprise a significant part of a commercial building's energy use. On average this energy end-use represents 7.3% of total energy use, but in certain buildings it can reach 20% of total energy use. The American Society of Heating, Refrigeration and Air conditioning Engineers (ASHRAE) recommends in ASHRAE Standard 62-89, *Ventilation for Indoor Air Quality*, that 15-20 cubic feet per minute (cfm) of outdoor air be provided for each building occupant. Meeting this requirement in Florida often requires substantial energy use to pre-condition the very humid outdoor Florida air. Systems that can reclaim waste heat for reheat or utilize advanced heat-pipe or desiccant

dehumidification technologies can provide this energy service at enhanced efficiencies.

Indoor Lighting averages about 27% of total commercial building energy use. The best fluorescent lighting systems (T-8 lamps with electronic ballasts) provide equal light at about four times the efficiency of incandescent lighting. Substitute compact fluorescent lamps for incandescents. Day lighting, a strategy that can be best employed only if considered in the early stages of building design, can reduce indoor lighting requirements by up to 60% if photo sensors and automatic dimming ballasts are employed. Of course, lights not in use should be turned off, so occupancy controls can save considerable lighting energy in commercial buildings.

Hot water is usually a small requirement in commercial buildings unless they include bathing, dish washing, or laundry facilities. Cost of use can be most effectively reduced by increasing the water heater Efficiency Factor (EF). For example new 40 gallon electric water heaters should have an EF of 0.88 or greater and new 40 gallon gas water heaters should have an EF of 0.54 or greater. Solar water heaters should be considered since they can have an EF greater than 10. Installation of low-flow showerheads can save upwards of 10% on hot water use. Additional tank and piping insulation should be considered.

Equipment energy use can account for about 21.2% of total energy use--and more if the indirect impact on cooling loads are counted. Choosing computer equipment that qualifies for EPA's *Energy Star* program can produce savings of 25-50% over the equivalent

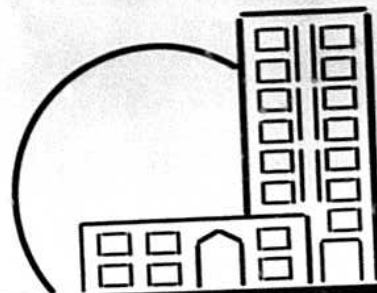
conventional equipment. Fax and copy machines with energy saving operating modes can also save equipment energy. Consider implementing purchase policies that encourage energy-saving equipment.

Cooking energy use represents only 2.3% of average commercial buildings energy use but can reach 27% of total building use in cafeteria facilities. Since adequate ventilation is relatively large for spaces containing such equipment, the efficiency of the ventilation system can significantly impact the building energy use that ultimately results from cooking.

Refrigeration energy use averages 10.5% of commercial building energy use and reaches 24% in cafeteria facilities. Older model refrigerators and freezers are at best only marginally efficient. In selecting new refrigerators or freezers, select the most efficient unit available.

Outdoor lighting energy use represents 5% on average but may be much higher in facilities requiring extensive security or having large expanses of parking. Consider high efficiency systems such as high-pressure sodium lamps. Passive infrared controls can also provide large savings as well as enhanced security in many circumstances.

Florida Building Energy-Efficiency Rating System



New Commercial Buildings

The State of Florida
Department of Community Affairs
Codes and Standards Office
2740 Centerview Drive
Tallahassee, FL 32399-2100
(904) 487-1824

Linda Loomis Shelley, Secretary

Background

In 1993 the Florida Legislature passed the *Florida Building Energy-Efficiency Rating Act*. This act establishes a uniform, statewide energy-efficiency rating system for buildings. The intent of the act is to provide a market-place yardstick that measures the benefits of building energy-efficiency improvements.

The Act requires that all commercial buildings that are proposed for construction, purchase, renovation or lease, be rated for energy-efficiency. Department of Community Affairs Rule 9B.60 defines new commercial buildings as new commercial occupancy buildings including commercial buildings in mixed occupancy buildings permitted for construction after the effective date of this rule.

Rating System

Florida's Building Energy Rating System and Guide provide a fair, balanced way to compare energy efficiency among various commercial buildings of the same size, occupancy and space use classification. It gives overall estimates for the following:

- * The commercial building's annual energy cost in dollars (for electricity, natural gas, and other purchased fuel)
- * Annual energy use in millions of British thermal units (Mbtu)
- * A rating for the building in relation to the most and least efficient commercial buildings

of the same size, occupancy and space use the classification.

In addition to the overall estimate of the commercial building's energy efficiency, Florida's Building Energy Efficiency System provides nine separate energy end-use estimates that are combined to arrive at the overall rating. These energy end-users for commercial buildings are:

- * Air conditioning
- * Heating
- * Ventilation
- * Indoor lighting
- * Hot Water
- * Equipment
- * Cooking
- * Refrigeration
- * Outdoor lighting

Rating Basics

Much like an automobile mile-per-gallon sticker or an appliance energy guide, the Florida Building Energy Rating Guide is only an estimate. It represents the most likely energy consumption and cost under standard occupancy and operating conditions for each building space use.

Estimates of energy cost are based on average statewide prices by fuel type. The prices used are those reported as Typical Bill Comparisons by the Florida Public Service Commission in their Annual Report. These prices are weighted to account for typical utility demand charges. Utility prices vary, however, so actual energy cost may differ from the estimate. The Florida Building Energy Rating Guide specifies the utility prices used to compute the estimate.

Interpreting the Rating

The Florida Building Energy Rating Guide provides a scale that allows you to compare a specific building with the most efficient and least efficient building energy technologies available today. The "most efficient" end of the scale represents both the lowest energy use (in Mbtu) and the lowest cost. The **lowest energy use** represents the most energy-efficient technologies currently available. The **lowest cost** represents the choice of fuel that will provide that energy at the least price.

Although the lowest rating is always technically achievable, it usually is not the most cost-effective. Generally speaking, the closer the rating is to the left end of the scale ("most efficient"), the more difficult and expensive it will be to achieve more efficiency. On the other hand, ratings toward the right end of the scale ("least efficient") can be easily and cost-effectively improved.

The breakdown of separate energy uses in the guide shows how costs are distributed. This information will be helpful in choosing where to invest money in energy-efficiency improvements.

Commercial Building Energy Use

Average annual energy consumption in commercial buildings varies substantially by building classification, occupancy and space use. For example, the same building is likely to have substantially different energy use depending on whether it is used to house office

space or to house laboratory space. For large buildings *energy use density* is often used as a measure of the building's energy efficiency. This estimate gives the annual energy use of the building per square foot of conditioned floor area.

Within a given commercial building classification, the design and construction of the building itself and the efficiency of its energy service devices will control the most significant portion of the building's energy use. But even in the same building, actual energy use will vary depending on occupant density, thermostat setpoints, energy system control logic and many other factors.

Ways to Improve Energy Efficiency

Air conditioning is the largest energy end-use in the typical Florida building. On average more than 24.4% of annual energy costs go toward air conditioning in commercial buildings. The most effective ways to reduce air-conditioning cost are by improving lighting systems efficiencies, keeping heat out of the building and by improving the cooling system efficiency. Keeping the heat out means using light-colored exterior surfaces, installing good wall and ceiling insulation, and controlling air flow between indoors and outdoors (infiltration). The efficiency of the cooling system has a strong impact. Consult qualified service people if you have questions regarding system performance. Air conditioning duct systems should be free of leaks; otherwise large quantities of energy will be wasted. Consider installing energy



Public Service Commission

-M-E-M-O-R-A-N-D-U-M-

DATE: July 6, 1995

TO: Parties of Record in Dockets 930548-EG, 930549-EG, 930550-EG, 930551-EG, 940570-GU, 941170-EG, 941171-EG, 941172-EG, 941173-EG, 950192-GU, and 950716-GU

FROM: Kay E. Flynn, Chief of Records, Division of Records & Reporting **MB**

RE: Contact Regarding Employment

Section 5.02 B.1.c. of the Commission's Administrative Procedures Manual requires notification of all parties in docketed matters before the Commission if a staff member involved in any docket(s) indicates he or she intends to seek employment with any one of the parties or interested persons--including the prospective employer or affiliated company--in the docket(s).

In accordance with that procedure, you are hereby notified that Michael A. Palecki, Chief of the Bureau of Electric and Gas in the Commission's Division of Legal Services, has advised the Commission that he intends to pursue discussions with NUI Corporation, the parent company of City Gas Company of Florida, regarding employment. To avoid any possible conflict of interest, Mr. Palecki has been removed from participation in the dockets listed above.

cc: William D. Talbott
Noreen S. Davis
Michael A. Palecki

State of Florida



Diane K. Kiesling
Commissioner

Fletcher Building
101 East Gaines Street
Tallahassee, FL 32399-0851
(904) 488-6943
FAX# (904) 488-0914

Public Service Commission

MEMORANDUM

May 1, 1995

TO : RECORDS AND REPORTING

FROM: CATHERINE BEDELL, AIDE TO COMMISSIONER KIESLING *CB*

RE : INTERCEPTED COMMUNICATION DATED 04/17/95 FROM DEB SWIM
(Dockets ~~941170-EG~~ through 941173-EG)

This office has received the attached correspondence in the above-referenced docket to which Commissioner Kiesling is assigned. The correspondence was intercepted by the Commissioner's staff and has not been viewed or considered in any way by Commissioner Kiesling. Pursuant to the Commission on Ethics Opinion 91-31, issued July 24, 1991, the attached correspondence is not an *ex parte* communication because it has not been seen by the Commissioner. Therefore, dissemination of this correspondence to the parties of this docket pursuant to the provisions of Section 350.042, Florida Statutes, is not required. However, Commissioner Kiesling has requested that all correspondence of this nature and this memorandum be placed on the record in the correspondence file of the docket.

CB:bf
attachment

RECEIVED
MAY 1 1995

FPSC-RECORDS/REPORTING

CB Ex parte -



April 17, 1995

Mr. Joe Jenkins, Director
Division of Electric and Gas
Florida Public Service Commission
101 East Gaines Street
Tallahassee, FL

BY HAND DELIVERY

Re: Approval of Demand Side Management Plans for Florida's Investor-Owned Utilities
Docket Nos. 941170-EG through 941173-EG

Dear Joe:

Attached are LEAF's comments on the above referenced dockets. To help assure achievement of Commission-set conservation goals, LEAF urges you to recommend that the Commission:

- * *direct each utility to file and follow a monitoring and evaluation plan designed to cost-effectively gather information necessary to enforce Commission-set goals.*
- * *make clear that goals cannot be met with savings from "free riders"; and*
- * *establish meaningful annual review of goals compliance.*

These three actions would allow the Commission to reasonably assess conservation goals compliance and assure that conservation goals are met in the most cost effective way for Florida ratepayers.

Gathering the right information through monitoring and evaluation is critical to meeting the Commission's responsibility to see that ratepayers' money is reasonably invested. Without systematic measurement of DSM performance the Commission cannot reasonably determine whether DSM programs are providing the expected level of savings cost-effectively or take appropriate action to direct program modifications. Therefore, LEAF urges the Commission to direct the utilities to file monitoring and evaluation plans



LEAF
LEGAL ENVIRONMENTAL
ASSISTANCE FOUNDATION

COMMENTS ON DEMAND SIDE MANAGEMENT PLANS
OF FLORIDA'S INVESTOR OWNED UTILITIES

DOCKET NOS. 941170-EG through 941173-EG

April 17, 1995

A Public Interest Law Firm

1115 NORTH GADSDEN STREET • TALLAHASSEE, FLORIDA • 32303-6327 • 904-681-2591 • FAX 904-224-1275 *Recycled Paper*

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Letter to Joe Jenkins
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that meet the guidelines stated in the attached comments, Section III-D. For your reference, copies of a monitoring and evaluation plan that exemplifies many of these principles, and the Handbook of Evaluation of Utility DSM Programs, published by Oak Ridge National Laboratory are attached.

The Commission should also make clear that its conservation goals may not be met with savings from free riders, i.e., those who would have taken the identical energy conservation action *without* the DSM program. Counting free rider savings towards the goals would create perverse incentives to spend ratepayer funds on savings that would occur without utility intervention. Not counting free-rider savings appropriately directs utility efforts toward maximizing savings that would not otherwise occur--the reason for utility programs in the first place. Further, in calculating the cost-effective efficiency savings potential upon which the goals were based, the Commission used a load forecast that factored in the savings from free riders. Allowing goals to be met with free rider savings would effectively double count that savings--once in the load forecast and again in the DSM plan savings--degrading the goals to the detriment of utility customers.

Third, to assure that utilities reach their annual goals the Commission will need to verify goals compliance or shortfall and take appropriate action on an annual basis, for example as part of the standard ECCR process. Coupling goals compliance review with the annual ECCR prudence review of DSM spending offers significant advantages. Evidence regarding prudence could helpfully inform the Commission's assessment of appropriate remedies for goals shortfalls or rewards for goals achievements. Similarly, a review of savings achievements could indicate how effectively DSM budgets were expended and such findings could be germane to considerations of management prudence.

Thanks for your consideration. If you have any questions or wish to discuss these matters further, please let me know.

Sincerely,

Deb Swim

Deb Swim
Attorney
Energy Advocacy Project

cc: Parties of Record

I. Introduction and Summary

In its final order in Docket Nos. 930548, 49, 50, 51-EG, the Florida Public Service Commission set annual energy and peak demand savings goals for the four major investor-owned utilities. The Commission established annual goals for the ten-year period 1994-2003, specified separately for the residential and commercial-industrial sectors. The Commission's decision required that goals be met in every year, and specified that sanctions would be applied if goals were not met.

The Commission-set goals are based on the utilities' estimates of the savings achievable with DSM measures and programs that pass the Rate Impact Measure Test ("RIM"). However, the Commission gave the utilities free rein to meet the goals through "whatever portfolios of programs they wish, including TRC programs" and encouraged utilities to "evaluate implementation" of RIM-failing/TRC-passing measures that offer large savings with nominal rate impact--inviting utilities to seek stockhold incentives and recovery of revenue losses for such measures. (Order No. PSC 94-1313-FOF-EG, p. 22)

The four utilities subject to the goals order--Florida Power & Light, Florida Power Corporation, Tampa Electric Company, and Gulf Power Company--have filed the first round of DSM plans since the order was issued. All four plans project sufficient savings from RIM-passing programs to meet the goals.

LEAF has reviewed the DSM plans and associated technical appendices. The utilities have not yet responded to our interrogatories concerning the detailed assumptions underlying the DSM plans. However, based on the sketchy information provided in the plans, we find that the filed program plans generally suffer from the following deficiencies:

- reliance on weak and needlessly expensive delivery strategies that create lost opportunities, promote cream skimming, and exacerbate free-ridership levels;
- lack of apparent consideration of the effect of free-ridership on overall savings levels (and thus contribution to goals) or program cost-effectiveness;
- failure to evaluate TRC options, either as less-costly substitute for RIM options in meeting goals or as cost-effective options for surpassing goals;
- absence of effective monitoring and evaluation ("M&E") protocols for tracking and verifying program performance and progress toward goals;

If utility M&E efforts are to provide useful information in time for the Commission's deliberations, it is essential that M&E plans be in place prior to the start of monitoring activities. The Commission should therefore direct utilities to file comprehensive M&E plans that prescribe appropriate M&E techniques for gathering the information that the Commission will need to enforce its goals directives.

We discuss in detail below the issues of program-performance verification, M&E planning, free-ridership, and goals enforcement as they relate to goals compliance. Based on the findings of our assessments of these issues, LEAF recommends that the Commission:

- direct each utilities to develop and file a comprehensive M&E plan consistent with the principles and guidelines stated below, and to collect and report the program-implementation data required to verify savings projections;
- explicitly state that goals cannot be met with free-rider savings, and require that achievements be reported both gross and net of free riders along with all assumptions and evaluation data regarding free-ridership;
- formally establish an annual reconciliation and enforcement process, either as an independent proceeding or as part of the standard ECCR process.

II. Verifying Goals Compliance

In its final order in the goals dockets, the Commission prescribed cumulative energy and peak-demand savings goals for the four major investor-owned utilities. The Commission ordered the utilities to meet these goals on an annual basis, but gave free rein to utilities to determine the best approach for complying with the Commission's directives:

Utilities are free to file whatever portfolio of programs they wish, including TRC programs, in order to meet their goals. (Order No. PSC-94-1313-FOF-EG, p. 22)

In so doing, the Commission reserved the authority to review the performance of each utility's chosen course of action and to employ appropriate means for ensuring compliance with its directives:

Any utility that does not achieve its goal shall be either penalized or have programs prescribed to it in a manner to be determined by this Commission on a case-by-case basis. (p. 22)

In essence, the Commission has defined its primary enforcement

task as one of retrospectively reviewing actual program performance and reconciling performance with initial planning assumptions.¹ The Commission's review of actual spending and savings experience will be essential for validating utility claims regarding goals compliance in the previous year and, where necessary, for influencing future DSM efforts with prescribed programs or sanctions as appropriate. As part of this process, the Commission will need to address and rule on three issues:²

- Have utilities met the cumulative goals prescribed by the Commission for that year?
- Were DSM savings acquired cost-effectively and at minimum feasible expense to ratepayers?³
- Given a finding of noncompliance, what are the appropriate penalties and/or program revisions for effecting future compliance?

The Commission (and other parties) will need access to a body of program-implementation data sufficient to conduct a thorough compliance review. Since utility compliance filings will be relied on as the primary data source, it is critical that utilities provide not only overall spending and savings results, but the underlying program-performance data necessary to reconcile implementation experience with corresponding ex ante planning estimates.⁴

The Commission can use this reconciliation data in two ways. First, the data can be used to verify independently the utilities' findings regarding DSM-program cost-effectiveness, savings

¹This is in addition to the Commission's review of program design proposals and retrospective prudence assessments.

²As discussed below, these issues can be addressed in conjunction with the Commission's regular prudence review of utility DSM spending.

³Although the Commission set goals based on utility estimates of RIM-passing savings potential, the final order in the goals docket does not explicitly require that utility efforts to meet the goals be cost-effective under the RIM or the TRC tests. However, the Commission presumably would require at a minimum that programs be cost-effective under the TRC, if not also cost-effective under the more restrictive RIM.

⁴The specific data required for a reconciliation analysis will vary by utility and program. We identify below the broad categories of data that would most likely need to be collected for any type of DSM program.

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- absence of effective monitoring and evaluation ("M&E") protocols for tracking and verifying program performance and progress toward goals;

achievements, and goals compliance.

Second, if savings achievements fall short of the annual goal, the program-implementation data may reveal the cause of the shortfall and highlight appropriate responses by the Commission. For example, a utility may not have met its goal for the commercial-and-industrial sector due to a general economic downturn and consequent decreased savings potential from new building construction. In this case, the Commission might simply direct the utility to reallocate funding appropriated for new-construction programs to programs targeted to the retrofit market.

Alternatively, the shortfall may have been due to the utility's failure to raise rebates in the face of conclusive evidence that rebate levels were too low to promote program participation. If so, the Commission might choose to penalize the utility for its inaction and prescribe changes in program design to improve participation rates in the future.

As discussed in detail below, properly structured monitoring and evaluation of program results can provide the information the Commission needs to verify program achievements and improve program strategies. In turn, M&E efforts are most likely to provide useful information if guided by a cohesive and well-defined M&E plan. The M&E planning process serves to identify the overall purpose and goals of M&E activities, the program-implementation issues to be investigated, and the appropriate methods for gathering and evaluating program results. A properly designed M&E plan can ensure that M&E budgets are spent efficiently on securing the right information for answering the right questions.

Unfortunately, there is no evidence that the utilities have developed M&E plans or relied on such plans to select the M&E tasks described in their DSM plans. Monitoring and evaluation plans were not filed as part of the utilities' DSM plans. Moreover, the plans' cursory descriptions of proposed M&E activities give little indication of the overall purpose or goals of the tasks outlined or of the basis for relying on the evaluation techniques described therein.⁵

Without such M&E plans, the utilities' M&E efforts may proceed in a piecemeal fashion that results in serious gaps in the information collected and evaluated. If so, the Commission could lack critical data for determining actual program performance and overall goals compliance.

The need for complete and verifiable implementation data will be particularly acute for those utilities that are relying one or

⁵FPC's general discussion of the context and purposes of monitoring and evaluation is a notable exception.

two programs to provide the bulk of the compliance savings. For example, TECo expects that 80%-90% of its energy goals in the commercial-industrial sector will be met with savings from its Commercial Indoor Lighting Program. With so little diversification, there is significant risk of TECo falling short of its goal if the lighting program does not perform as expected.⁶

If utility M&E efforts are to provide useful information in time for the Commission's deliberations, it is essential that M&E plans be in place prior to the start of monitoring activities.⁷ The Commission should therefore direct utilities to file a comprehensive M&E plan that delineates for each DSM program the issues to be investigated and the M&E techniques to be employed in addressing the issues of concern. We provide below general planning principles and guidelines to assist the utilities and the Commission in the timely development of comprehensive M&E plans.

III. Context and Purpose of Monitoring and Evaluation

Over the past decade, utilities have increasingly recognized and sought to acquire demand-side resources as part of a least-cost approach to meeting the energy service requirements of their customers. As DSM programs have become significant elements in utility resource portfolios, determining the effects of DSM programs has become increasingly important. Utilities, regulators, and customers want to know whether programs are providing the level of savings expected of them, whether the programs are cost-effective for the utility and for customers, and what can be done to increase participation, lower costs, and increase energy and demand savings.

Monitoring and Evaluation (M&E) is the process that has evolved to answer these questions. It is the "systematic measurement of the operation and performance" of DSM programs,⁸ and a field of applied science where there are well-developed methods, standard practices, extensive literature, and a network of experienced technicians and

⁶If savings from this program are projected to contribute 80% of goals savings and actual savings are 10% less than projected, savings from the remaining programs would have to be 40% greater than expected to maintain goals compliance.

⁷Optimally, M&E planning should begin during the course of program design.

⁸Hirst, Eric, "Evaluating Demand-Side Management Programs," Electric Perspectives 14(6), 1990.

achievements, and goals compliance.

Second, if savings achievements fall short of the annual goal, the program-implementation data may reveal the cause of the shortfall and highlight appropriate responses by the Commission. For example, a utility may not have met its goal for the commercial-and-industrial sector due to a general economic downturn and consequent decreased savings potential from new building construction. In this case, the Commission might simply direct the utility to reallocate funding appropriated for new-construction programs to programs targeted to the retrofit market.

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Without such M&E plans, the utilities' M&E efforts may proceed in a piecemeal fashion that results in serious gaps in the information collected and evaluated. If so, the Commission could lack critical data for determining actual program performance and overall goals compliance.

The need for complete and verifiable implementation data will be particularly acute for those utilities that are relying one or

⁵FPC's general discussion of the context and purposes of monitoring and evaluation is a notable exception.

the accuracy and precision in the quantification of program impacts. While measurement can reasonably seek accuracy and precision on the order of ± 10 to 15%, the decision as to the appropriate levels to attain should be guided by analysis of the value of improved estimates relative to the M&E cost.

A. Impact Evaluation

The measurement functions of M&E are carried out through what are commonly referred to as impact evaluation activities, as differentiated from process evaluation activities. Process evaluation activities (discussed in the next section) fulfill the characterization and optimization purposes of evaluation. As discussed in the Handbook of Evaluation of Utility DSM Programs:

Impact evaluations examine the effects of the program. They provide quantitative documentation of program benefits and costs. Impact evaluations measure program participation, participant acceptance of the recommended DSM measures and practices, performance of the DSM technologies promoted by the program, program energy and load reductions, and program costs.¹³

Impact evaluations compare what happened with the program to what would have happened if the program had not existed - with respect to customer's electrical requirements, customer costs, and utility costs. Such determinations are not as simple as examining the change in a program participants' energy use before and after their participation in a DSM program. First, it is necessary to determine the net savings rather than the total (or gross) energy savings:

Total savings are the changes in annual electricity use and peak demand experienced by participants in the utility's program. Net savings are the portion of the total savings that can be directly attributed to the utility program.

Net savings are the difference between total savings and the savings that participants would have achieved had the program not existed. Non-program savings reflect customer responses to changes in electricity and fossil fuel prices, changes in economic activity or personal income, introduction of new electricity-using technologies, and other non-program factors.¹⁴

¹³Hirst, Eric and J. Reed, Handbook of Evaluation of Utility DSM Programs, ORNL/CON-336, Oak Ridge National Laboratory, Oak Ridge, TN, 1991.

¹⁴Id.

Further adjustment of measured impacts is necessary to account for free riders, defined as those participants in a DSM program who "would have taken the identical energy conservation actions without the DSM program."¹⁵ Free riders represent a cost to a utility's DSM programs, but provide no benefits (impacts). Accordingly the measured impacts of programs must be reduced to account for free riders and impact evaluations must include determination of, and adjustment for, free riders.

Conversely, many DSM programs can have the effect of achieving energy savings among some utility customers who are not formally program participants. These customers are often referred to as free drivers and their effect on program impacts referred to as spillover and market transformation. Free-drivership occurs when non-participating customers implement energy-efficiency measures either through a conscious awareness of the program or because of a program-induced change in the marketplace. An example of spillover would be where a customer purchases an efficient product based on information provided through program activities, but does not claim the rebate offered on the product. An example of market transformation would be where high participation in a new construction program transforms the market to the extent that higher levels of efficiency are implemented by non-participating builders for competitive reasons. While spillover and market transformation effects are difficult to quantify, there are established measurement techniques that can be used by utilities to account for these effects.

B. Process Evaluation

While the data needed to determine goals compliance is largely met through impact evaluation, utility M&E efforts should also be developed to address the characterization and optimization purposes of evaluation. If goals are not being met, it is the characterization and program optimization M&E results which will inform both regulators and the utility as to the probable reasons, the potential for achieving better results, and the program modifications that may be necessary so that goals can be achieved.

Even if there were 100% confidence that impact goals would be met, utilities would still be prudent to make use of the characterization and program-optimization functions of M&E. The feedback from characterization and program-optimization M&E activities can provide numerous benefits, including:

¹⁵Saxonis, William, "Free Riders and Other Factors that Affect Net Program Savings," in Handbook of Evaluation of Utility DSM Programs, ORNL/CON-336, Oak Ridge National Laboratory, Oak Ridge, TN, 1991

expenditures were budgeted for process evaluations.¹⁷ However, the cost of a comprehensive process evaluation is likely to be comparable to that of a comprehensive impact evaluation.¹⁸ The trend in recent years, particularly among utilities with more M&E experience, is to put more emphasis on process evaluations relative to impact evaluations.

C. The Need for M&E Planning

While evaluation is inherently a retrospective activity, it is essential that M&E be systematically planned in advance of its implementation and that the results of the planning process be documented in an M&E plan. Without adequate and timely planning, evaluation will likely be inefficient and unable to achieve its goals. The types of data that are required for program evaluation cannot be anticipated without going through a planning process that identifies the data necessary to answer program-specific evaluation questions. Equally important, a wide range of both impact- and process-evaluation techniques and experimental designs require the collection of data during, and in some cases before, the period of program implementation. Thus, M&E should also be planned in advance of the program implementation.

Ideally, M&E planning will be an integral part of the program-design phase of DSM program development. Just as program design influences evaluation requirements, contemporaneous evaluation design can influence the nature and timing of planned program activity. For example, delivery mechanisms and schedules may be modified to take advantage of data collection opportunities.¹⁹ If evaluation planning cannot be conducted simultaneously with program design, it should be completed prior to program implementation which is the subject of evaluation.

The benefits of planning prior to program implementation include:

- Establishment of hypotheses to be tested, which in turn define data needs and analysis methods.
- Assurance that early evaluation activities can provide prompt

¹⁷Wirtshafter, Robert, "Establishing Priorities for Future Evaluation Efforts," Proceedings of the Fifth International Energy Program Evaluation Conference, Chicago, IL, NEPEC, August 1991.

¹⁸Hicks, Elizabeth, "Planning Evaluations," Handbook of Evaluation of Utility DSM Programs, ORNL/CON-336, Oak Ridge National Laboratory, Oak Ridge, TN, 1991.

¹⁹Hicks, Elizabeth, op. cit.

feedback to program implementers, enabling early identification of problems and timely corrective action.

- Assurance that program designs support the data-collection needs.
- Full use of data collection opportunities during implementation, ensuring that all necessary data will be collected, and reducing costs for data collection and analysis.
- Enhanced data quality and consistency, and establishment of precision requirements and sample designs.
- Facilitation of efficient design and development of a DSM tracking system to store and maintain data.

Without a detailed M&E plan that establishes research hypotheses, experimental designs, and data needs and analysis methods, substantial opportunities for efficient data collection and early implementation feedback will almost certainly be lost. With proper planning, utilities can ensure that the program-design supports the necessary data needs, and that data is collected efficiently and effectively.

The results of the M&E planning process should be reported in an M&E plan for two reasons. First, the evaluation plan plays an important management role as a reference document for the utility and its contractors to implement evaluation activities. Second, M&E plans should be available for critical review by the Commission at the time of utility program plan filing. Without these plans, the Commission will not be able to determine whether the utility has developed effective strategies for collecting and evaluating the data needed to assess program performance and verify goals compliance.

Data collection should not be confused with evaluation. Collecting appropriate data is necessary, but not sufficient, for proper evaluation. Many utility evaluations suffer from inconsistent or missing data, either because the data were collected with inconsistent methods, or defined inconsistently. This is often the result of poor planning, with data being collected at different times, from different participant or non-participant samples, with different survey instruments, or stored in different databases designed without a clear understanding of the ultimate uses of the data. Proper planning establishes what data are needed, how they should be defined and used, from whom they should be collected, how and by whom they will be collected, and where and in what fashion they will be stored and kept up-to-date.

At best, the consequences of not planning will be that substantial cost and effort is expended to collect supplemental

data after the fact, to merge databases, and to perform quality-control and data-cleaning exercises. At worst, the failure to plan will result in the introduction of significant bias into the analysis results, or the inability to properly analyze specific issues, such as free ridership, persistence, or snap-back. The potential costs of these deficiencies are much greater than the cost of data collection alone. These deficiencies may result in erroneous conclusions regarding whether goals are being met. This in turn can lead utilities to continue to implement programs that are not cost effective, miss highly cost effective DSM opportunities from program enhancements, or collect inappropriate incentives from ratepayers.

D. M&E Planning Guidelines

This section provides general guidelines for developing and implementing effective M&E plans. These guidelines reflect a general consensus among leading practitioners in the M&E industry about the best approaches to M&E planning.

As first summarized by Hicks²⁰ and usefully elaborated on by McRae, et. al.,²¹ the M&E process can be described as having six steps:

1. Identify evaluation objectives and the program-specific research questions to be answered by M&E.
2. Identify evaluation approaches capable of answering the research questions and providing information suitable for decision making.
3. Assess alternative experimental designs, techniques, and analytical methods, including their data requirements.
4. Estimate the value of information and use this to establish an appropriate budget for M&E activities.
5. Conduct the evaluation.
6. Communicate the results.

Reflecting this process, an M&E plan should comprise the

²⁰Hicks, Elizabeth, op. cit.

²¹McRae, Marjorie, Henneberger, and Hanser, "Now that We've Got Their Attention: Guidelines for Producing Useful and Used Evaluations," Proceedings of the ACEEE 1992 Summer Study on Energy Efficiency in Buildings, Volume 7, American Council for an Energy Efficient Economy, Washington, DC, August 1992.

following:

- . A clear statement of the purposes of DSM M&E for the subject utility, reflecting the interests of all stakeholders.
- . A brief description of each DSM program being evaluated, including history and annual goals for participation, measure penetration, and impact goals.
- . A detailed list of the hypotheses to be tested, and how the results will be used to improve program design and implementation.
- . A description of the research methods, experimental designs, and analytical methods to be applied (with identification of approaches to be used in addressing each of the identified hypotheses).
- . Identification of the data needs and a data collection plan.
- . Estimates of the accuracy and precision of the selected M&E approaches to be implemented, including sample designs where applicable.
- . Detailed implementation plans and schedules for each type of evaluation.
- . Detailed evaluation budgets, including support for appropriateness of the proposed budget relative to the value of the information procured through evaluation.
- . Identification of the deliverable products, timetable for completion, and deadlines for when results are needed for decision making (e.g., regulatory reviews, budgeting cycles, input to IRP).

When reviewing M&E plans, utility staff members and regulators should also look for the following attributes:

- . M&E plans should explicitly identify how the findings will be incorporated into future program design and delivery decisions, and in utility planning. Without these issues clearly articulated, it is likely that research and data collection will suffer from a lack of direction.
- . M&E plans should establish a detailed schedule, budget and resources. The schedule should integrate the evaluation with program design and implementation activities. Data must be collected in time to support each phase of the analysis, and results must be available in time to support future program decisions.

The evaluation budget and staffing plan should ensure that upper level managers are committed to the evaluation, that appropriate staff members and contractors will be available in a timely fashion to complete M&E tasks, and the planned expenditures are appropriate given the program design, projected impacts, and future importance of the program to the utility's overall DSM plans.

M&E budgets typically range from about 5% to 10% of program implementation costs. In a survey of utility DSM expenditures, the range of expenditures observed varied from 3% to almost 30%, but most utilities appear to be guided by a 5%-to-10% rule of thumb.²² However, as noted by Wirtshafter and numerous other evaluation researchers, a single rule-of-thumb is not appropriate; ultimately, budget levels should be reconciled with the value of the information procured.²³ Pilot programs, or programs in early phases of development may warrant relatively large expenditures on M&E (often 30% or more). This is particularly true if they are testing different delivery or incentive mechanisms, or are being analyzed for replication on a larger scale. On the other hand, large, mature full scale programs may require relatively small expenditures on evaluation (as a percent of implementation cost). This is particularly true of large rebate programs, where costs primarily represent incentives. Another factor is the absolute size of the program. Because some M&E costs are relatively fixed regardless of program size, M&E costs as a percentage of total program costs will be larger for smaller programs.

The M&E goals and objectives may also dictate appropriate levels of expenditures. For example, while a large and mature full-scale program may have less need for extensive process evaluation, it may represent a large portion of the utility's projected DSM impacts. Therefore, a relatively large portion of impact-evaluation funds should be spent to ensure accurate impact estimations. Ultimately, impact-evaluation expenditures should be allocated based on projected program impacts, the projected uncertainty in

²²McRae, Marjorie, Henneberger, and Hanser, "Now that We've Got Their Attention: Guidelines for Producing Useful and Used Evaluations," Proceedings of the ACEEE 1992 Summer Study on Energy Efficiency in Buildings, Volume 7, American Council for an Energy Efficient Economy, Washington, DC, August 1992.

²³Hicks, op. cit. Semak, Michael, Robert Uhlener and Bruce Smith, "Building Reliable DSM Resources with Program Evaluation," Proceedings of the ACEEE 1994 Summer Study on Energy Efficiency in Buildings, Volume 8, American Council for an Energy Efficient Economy, Washington, DC, August 1994. Hummel, Philip, "Resource Allocation and DSM Program Evaluation Planning," Proceedings of the Sixth International Energy Program Evaluation Conference, Chicago, IL, NEPEC, August 1993.

current impact estimates (from simple engineering analyses), and the projected marginal costs of precision improvements.²⁴

An M&E plan should identify precision requirements, and how these will be met. Precision refers to the range of variance around an estimate given a probability of certainty. In other words, one might estimate impacts with 90% confidence that the actual impacts are within plus or minus 20% of the estimate (20% precision at 90% confidence). Greater levels of precision generally require either larger samples or more robust techniques, and typically will involve greater cost. Thus, the plan should include a discussion of cost versus precision trade-offs, and the utility's rationale for the selected level of precision. In addition, a sampling plan should be included that supports the established level of precision, and that is reasonable given the hypotheses to be tested, data collection limitations, and time and resource constraints. Sample designs should be sufficiently detailed to ensure their efficiency.

M&E plans should identify the research methods to be used. These should be consistent with, and a logical extension of, the M&E goals and objectives, and fully support the hypotheses to be tested. Discussion should include the rationale for the method(s) selected, the data needed to support each approach, and how, when and by whom it will be implemented. The plan should also identify the information resulting from the analysis and how it will be used to support impact estimates or program decisions.

Perhaps one of the most critical functions of an M&E plan is full disclosure of the data needs to support M&E, and a data collection plan. Some data may need to be collected prior to program implementation (e.g., baseline data). Therefore, it is critical that data needs are fully identified up-front. In addition, a proper procedure for data storage and handling is necessary for effective on-going monitoring. The plan should identify exactly how data will be collected, including what samples will be used, what types of survey instruments and methods will be used, who will collect data, when it will be collected, and the procedure for data input, storage, handling and quality control. In addition, the plan should explicitly identify how the data will be used in the analysis. This will enable reviewers to ensure that all necessary data will be collected prior to analysis.

The following is an example of the types of data that should typically be collected to support impact and process evaluations:

²⁴For more information on allocation of evaluation costs, see Horowitz, M., DSM Impact Evaluation Planning: Standardization Versus Diversification, forthcoming paper in the National Conference on DSM Evaluation proceedings, Chicago, IL, August 1995.

- * *Direct measurement data.* These will typically support impact evaluations and may include whole premise, end-use, operation (run-time), equipment-metering, and customer-billing data.
- * *Engineering data.* These include facility-audit data; baseline equipment, operating and behavioral data, weather data, and data on installed measures.
- * *Statistical data.* These data typically support statistical impact estimates and are also used in process evaluations. They may include such things as customer and demographic data, segmentation data, regional data, and economic variables.
- * *Market data.* These include information to support process and market evaluations, including customer and trade-ally preferences, decision-making factors, behavior, satisfaction with program services and measures, and equipment-sales and distribution data.

Particular attention should be paid to the methods and timing of data collection. For example, engineering data typically must be collected on-site, by a trained auditor; engineering equipment and operating data collected through mail or phone surveys will typically be incomplete or inaccurate. A data-collection plan will ensure that lost data collection opportunities are not created. For example, if on-site visits are included as part of, program delivery, data collection should be done at the same time. Often short-term metering equipment can be installed during pre-inspections, read at measure treatment, and then collected during post-inspections. Other lost data-collection opportunities occur when utilities fail to coordinate with other utilities to implement joint data collection or analyses. These opportunities might involve neighboring utilities collecting trade-ally data on current market trends to assist in baseline and free-ridership estimation.

E. Critical Issues and Approaches

Monitoring and evaluation of DSM programs is an evolving practice, and can often involve numerous and sophisticated techniques. A detailed discussion of these techniques is beyond the scope of these comment.²⁵ However, the following addresses some general guidelines concerning free-ridership estimation, joint-utility activities, and overall impact estimation. Free-ridership and overall impact estimation are discussed because of their

²⁵For more detailed discussions of M&E research techniques, see Hirst, E & J. Reed, et. al., Evaluation of DSM Programs, Oak Ridge National Laboratories, Oak Ridge, TN, 1991; and Violette, D., et. al., Impact Evaluation of Demand-Side Management Programs, Electric Power Research Institute, Palo Alto, CA, 1991.

critical importance to establishing whether utilities are meeting their goals, and because of the inherent biases and inaccuracies in many estimation approaches. Joint-utility activities are singled out because they offer substantial cost saving benefits and are often neglected by individual utilities, but can be effectively promoted by regulators.

F. Free Ridership

A primary goal of M&E is to accurately quantify costs and benefits attributable to a DSM program. Initial program tracking system estimates typically represent gross impacts, based on the savings realized from all participants. To properly determine the impact of a DSM program, net impacts should be calculated by subtracting out free riders. Free riders are program participants who would have taken the same action in the absence of the program. If a customer's action is identical to what he or she would have taken without the program, they are a pure free rider, and the benefits realized by their action are not properly attributable to the program. Typically, a participant may be only a partial free rider. The customer may have been influenced by the program to implement additional measures, an incrementally higher efficiency measure, or to implement the measure sooner than they would have done without the program. In this case, only a fraction of the customer's savings are attributable to the program.

The extent of free-ridership is likely to be significantly influenced by program planning and design features. This can happen in a variety of ways. For example, if planners underestimate the baseline equipment efficiency, a rebate program may offer rebates for measures that already enjoy significant market saturation. In fact, some utilities have previously offered rebates for equipment with efficiencies that do not exceed code requirements, virtually guaranteeing high free ridership. A perhaps less obvious, but more common, program design that may result in high free ridership is when utility incentives are so low that they do little to influence customer behavior. Under this situation, only customers already planning to install a measure are likely to participate. Because program-design features can have a significant impact on free ridership, early and accurate free rider estimates are important, not only for ex post determinations of savings achievements, but to provide early feedback to support program modifications.

Unfortunately, while free-ridership estimation is a critical component of M&E, it is still an inexact science.²⁶ Previous free-

²⁶See, for example, Lui, D. & J. Fang, "Issues in Free Rider Estimations," Proceedings of the 1990 ACEEE Summer Study on Energy Efficiency in Buildings, Vol. 6, 1990; Kreitler, V., "Market Issues in Free Rider Estimation," Proceedings of the Electric Utility Marketing Research Council EUMRC/EPRI Conference, EPRI CU-

rider estimates have varied widely, and have often suffered from significant bias.²⁷ Four primary methods are typically used to address free ridership:

- participant surveys;
- measure sales data and baseline practices;
- comparison groups;
- statistical modeling.

The most common method for analyzing free riders is to survey (either by phone or mail) program participants. This has the advantage that it is relatively inexpensive and relies on primary data about the population in question (i.e., participants). Unfortunately, it is often difficult to obtain accurate answers from customers about hypothetical actions. If one simply asks a customer whether they would have done the same thing without the program, results tend to be biased downward. This is because customers will tend to answer the way they believe the surveyor desires.

Methods to overcome bias include using a series of questions that, taken together, allow the analyst to make judgments about the customer's likely behavior absent the program. For example, one might ask a customer to describe what plans they had prior to knowing about a program, and follow up with questions about the specific details of these plans and how much they would have paid for specific measures. Often participants who said that they planned to install efficient equipment indicated, in response to questions, that they did not have any specific plans, or would not have spent the necessary funds to follow through.

Even with well-designed surveys, customers may not know or remember what they would have done absent the program. As a result, participant surveys often are combined with other methods. One approach is to analyze equipment sales and distribution data. This approach may entail identifying pre- and post-program sales or shipments of equipment, both within the service territory and in a

7010, prepared by SRC, Bala Cynwyd, PA, 1990; and Saxonis, W. "Free Riders and Other Factors That Affect Net Program Impacts," Evaluation of Utility DSM Programs, ed. Hirst, E. & J. Reed, Oak Ridge National Laboratory, Oak Ridge, TN, 1991.

²⁷Saxonis, W., "Free Riders and Other Factors That Affect Net Program Impacts," Evaluation of Utility DSM Programs, ed. Hirst, E. & J. Reed, Oak Ridge National Laboratory, Oak Ridge, TN, 1991, p. 125, Table 24, "Example of Free Rider Estimates" shows a wide range of free rider estimates by program and technology type.

shipments of equipment, both within the service territory and in a comparison area without a program. Possible sources of data include surveys of vendors, manufacturers, and contractors, or secondary data collected by industry trade associations. One drawback to this approach is that sales data can not be disaggregated into participants and non-participants. Therefore, an increase in equipment sales does not necessarily mean the increase was due to program participation. It is also difficult to determine the underlying causes of market changes. For example, a similar increase in equipment sales both in the program territory and a neighboring region may indicate high free-ridership (the baseline practices shifted), or high free-drivership (the increase in sales outside the service territory was a direct result of spillover from the program).

Finally, statistical approaches, such as discrete choice models, can be used to model customer behavior (of participants and non-participants) and determine the importance of different factors in their decision-making, including participation in the program. These approaches still require extensive participant and non-participant survey data, and are often used in conjunction with other analysis methods.

G. Impact-Estimation Techniques

Impact estimation techniques typically involve one or more of the following methods:

- engineering estimates,
- direct metering,
- statistical billing analysis.

These methods should be combined to both improve precision and reduce costs. Engineering estimates, by themselves, are often inaccurate and biased. They rely on a deterministic approach to impact estimation that makes assumptions about customer behavior and equipment operation, often without primary data. Metering can provide extremely precise measurements of actual energy consumption and demand, but is costly. In addition, both engineering and metering approaches suffer from the inability to capture such behavioral effects as snapback and customer response to price changes and underlying economic factors.

Unlike engineering and metering methods, statistical billing analysis (SBA) can capture economic and behavioral effects by comparison with an appropriate control group. In addition, SBA is often considerably less expensive than metering. However, SBA may suffer from bias resulting from self selection or other factors, and often provides estimates with unacceptably large confidence

intervals. This may be particularly true if utility incentive payments are based on impact estimates.

One way to improve SBA precision and reduce bias is by incorporating engineering and metering data into SBA model specifications. For example, a small metering sample can be used to determine bias in engineering estimates on a larger sample. These estimates can then be improved using a ratio adjustment. In turn, the adjusted engineering estimates can be used as a variable in a statistically adjusted engineering model to reduce the variance of the SBA performed on a relatively large sample. These hybrid techniques should be considered by utilities in their M&E plans to maximize impact estimation precision at a minimal cost. Some utilities have spent large sums on metering, while ignoring other methods. The result is inordinately large M&E expenditures, and little information about true net impacts, because of an inability to identify behavioral effects and free riders. Other utilities have relied solely on SBA, ignoring valuable engineering or metering data available to them that could significantly improve estimates.

H. Joint Utility Methods

Florida utilities should consider combining research efforts on issues of common concern. Often, competing utilities will reinvent the wheel by doing separate analyses, when a single co-funded analysis would result in lower cost to all ratepayers and more accurate information. Examples of joint projects might include non-participant surveys, analysis of baseline practices, trends in equipment sales and saturation, engineering studies, and estimation of spillover effects. Utilities in New England and Vermont have recently used this collaborative approach.²⁸

IV. Accounting for Free-Ridership

The magnitude of savings and utility spending attributable to free riders could prove to be a critical consideration in the Commission's verification of program achievements. If actual free-ridership exceeds initial planning estimates relied on by utilities to set the pace of program implementation, actual program-savings achievements could fall short of the goals set by the Commission. For example, anticipating an average free-ridership rate of 10%, a utility might set its DSM budget for the next year so that sufficient savings from non-free riders are acquired to meet its annual goal. If actual free-ridership amounts to 20%, non-free-

²⁸In New England, EUA, BECo, Commonwealth Electric, NU and NEES jointly implemented spillover and residential-new-construction baseline studies. A project in Vermont also looked at new-construction baseline practices.

rider savings will fall short of the goal by 11%, all else equal.²⁹

Free-ridership reconciliation will be an issue because free-rider savings should not be allowed to contribute to meeting a utility's goals. If free-rider savings were counted towards goals, then the difference between estimated and actual free-ridership will have no effect on goals accounting. However, because it is neither reasonable nor practical to include free-rider savings in counting goals achievement, the proper estimation and accounting for free riders is very important.

Because the Commission will need to include as part of its compliance review an assessment of free-ridership experience and reconciliation of experience with initial planning assumptions, it is critical that utilities provide their program-design assumptions concerning free riders, and that they collect and evaluate program-implementation data on free-rider participation. Otherwise, it will be difficult, if not impossible, to measure program savings or cost-effectiveness.

As discussed below, none of the utilities' DSM plans provide free-ridership assumptions. However, our review of these plans and of the earlier CEGRR's indicates that actual free-ridership may greatly exceed the levels assumed in the plans. Indeed, actual free-ridership may be needlessly exacerbated by the utilities' sole reliance on RIM-passing strategies. If so, the Commission will need to determine with its retrospective review of program performance whether free-ridership has undermined the utilities' efforts to meet the goals and the extent to which the failure to consider high savings/low rate impact TRC options contributed to the goals shortfall.

A. Goals accounting of free-rider savings

Whether utilities should be allowed to count free-rider savings toward meeting their goals could become a major issue in goals compliance. The Commission's intent on the former seems clear from the case record and the final order in the goals docket: the Commission adopted Staff's recommendation to set goals "based on 100% RIM unadjusted for free riders" (Staff recommendation, September 23, 1994; emphasis added).

Although the intent was unambiguous, the implication for each utilities' treatment of free riders was not. FPC and TECo did not

²⁹Programs may also prove to be uneconomical in practice if free-ridership is greater than anticipated. Any program expected to have a TRC or RIM cost/benefit ratio of less than 1.13 with an expected free-ridership rate of 10% will in fact not be cost-effective if free-ridership actually amounts to 20%.

account for the effects of free riders in their estimates of potential savings from the RIM portfolio.³⁰ Instead, they proposed in hearings that for the purposes of setting goals that RIM-portfolio savings be reduced for free riders using a simple adjustment factor. The Commission explicitly rejected this proposal as arbitrary and set goals at 100% of estimated RIM potential. For these utilities, goals were truly unadjusted for free riders.

Gulf and FPL, however explicitly accounted for free-rider savings in their estimates of RIM-portfolio potential.³¹ Since the Commission based goals for these utilities on 100% of their "adjusted" RIM-portfolio potential, those utilities' goals implicitly exclude savings from free riders.

The variation across utilities in the treatment of free riders in setting the goals creates ambiguity for the treatment of free-rider savings in meeting the utilities' goals. Moreover, since none of the utilities' DSM plans provide free-ridership assumptions, it is not clear whether utilities believe that free-rider savings can or cannot be counted towards goal achievements. Given this uncertainty, LEAF recommends that the Commission clarify in its orders on the DSM plans that utilities will not be allowed to count free-rider savings to meet goals or to use free-rider savings for purposes of goals compliance.

Allowing utilities to meet goals with free-rider savings would effectively undermine the intent of the Legislature as expressed in the Florida Energy Efficiency and Conservation Act, which directs the Commission to develop and adopt overall goals and authorizes the Commission to require each utility to develop plans and implement programs for increasing energy efficiency and conservation within its service area. Sections 366.80-366.85 and 405.519, F.S.

Utility DSM spending on free-rider participants will not increase energy efficiency in a utility's service territory because free riders are those participants that would have adopted efficiency improvements on their own in the absence of a utility-funded program. Although free riders contribute to improving

³⁰Nor did they account for free riders in their cost-effectiveness screening of DSM options.

³¹FPL reduced market potential to account for free riders by excluding savings from measures with less than 2-year paybacks and by reducing average savings from residential load management measures (Docket No. 930548-EG, response to People's Gas Interrogatory 1-12). Gulf adjusted for free-ridership by estimating the difference in measure adoption rate in a scenario with no utility DSM spending and one with moderate utility DSM investments (Docket No. 930550-EG, CEGR (revised 2/22/94), p. 1).

energy efficiency in their utility's service territory, they would do so regardless of the utility's efforts.

Allowing utilities to meet the goals with free-rider savings provides perverse incentives for utilities to game the system. Since free-rider savings will occur without utility intervention, utilities could seek ways to minimize their DSM investments while claiming goals compliance on the basis of free-rider savings.³²

More critically, counting free-rider savings towards the goals makes the kilowatt-hour a free-rider would have saved anyway as important as the kilowatt-hour that only utility DSM spending can save. Prohibiting utilities from counting free-rider savings appropriately directs utility efforts at maximizing savings that would not otherwise occur--the reason for utility programs in the first place. Excluding free-rider savings thus creates an incentive for utilities to minimize spending on customers that will implement efficiency improvements anyway.³³ Without such an incentive, utilities will spend its customers' money on activities that yield no return in ratepayer benefits.

Including the free riders in the goals would render the goals useless for planning purposes. The utilities typically prepare a base-case load forecast for natural or business-as-usual conditions, including energy efficiency trends caused by changing technology, changing prices, and government regulations. This base-case forecast include the load reductions due to free riders, since by definition free riders are those participants whose load reductions would have occurred without the program. Attempting to remove all free riders (and hence all efficiency improvements) from this base case would be futile and the result would not be a meaningful forecast of anything. LEAF does not believe any utility prepares such a free-riderless forecast.

From this base-case forecast, the utility subtracts DSM effects (interruptible loads, load management, and conservation), along

³²This could be a particularly attractive option if the utility were faced with spending constraints or under pressure to minimize the rate effects of DSM spending.

³³For example, a utility could operate a program urging commercial customers to use fluorescent, rather than incandescent, lighting in new construction and renovation. Since this measure is decades old and already accepted for 80-90% of commercial floor space, the program would have little effect. The total savings from the measure will be quite large (perhaps high enough to meet the entire DSM goal), but free ridership will be very high, representing close to 100% of savings. If free rider load reductions were counted towards goals compliance, the utility might well meet its goals without actually reducing loads even one MW.

with other adjustments (such as for self-generation), to derive projected net firm loads. If free riders are included in the measurement of DSM, as well as in the base forecast, their effects will be double counted, and the net load requirements will be understated, leading the utilities to under-forecast and under-build. For the goals to be useful in planning, they must represent the reduction in loads from the base case, which requires that they be net of free riders.

If the Commission intends to effect real efficiency improvements and to provide true cost reductions to ratepayers, free-rider savings must be excluded from utilities' claims of goals achievements.³⁴

B. Free-Ridership in Utility Savings Estimates

At this time, LEAF is unable to determine the extent to which savings estimates in the utilities' DSM plans have been adjusted for free-ridership. The utilities did not describe free-ridership assumptions in their DSM plans, and they have not yet responded to LEAF's interrogatories regarding free-rider accounting. However, if the utilities estimated free-ridership for the DSM plans in the same manner as in their CEGRRs, it is likely that actual free-ridership will exceed estimated values. In that event, actual non-free-rider savings could fall short of the goals requirement.

For FPC and TECo, actual free-ridership is bound to exceed initial estimates if the DSM plans use the same free-ridership rates assumed in the CEGRRs; the CEGRRs assumed no free riders. Although FPL and Gulf adjusted savings estimates to reflect free-ridership (at least in the CEGRRs), it is likely that these utilities underestimated the magnitude of free-ridership associated with the program delivery strategies relied on in their plans.³⁵ In particular, these utilities may have drastically reduced measure incentives in order to make measures cost-effective under the RIM.³⁶

³⁴The free-rider savings excluded from claims of goal achievements would include reductions in load due to market-driven switching from electric to gas service. Load reductions from electric-to-gas conversions should be counted for purposes of goal compliance only when such switching results from electric utility spending on efforts to overcome market barriers to cost-effective conversion.

³⁵This would also pertain to FPC and TECo if they in fact incorporated free-ridership assumptions in their savings estimates.

³⁶Since the RIM only counts utility expenditures as costs, the RIM cost-effectiveness of a measure can be improved by reducing the utility incentive payment and increasing the participant share

Reducing incentive levels, however, increases the share of free-rider participants and savings; since free riders are customers that would install the measure without any incentive, all increases in participation and savings resulting from an increase in incentive level will be from non-free riders. It is unlikely that the utilities reasonably estimated this effect on free-ridership from its reductions in incentive levels.³⁷

In essence, the utilities may be needlessly increasing free-ridership by relying solely on RIM-passing measures to meet goals. As a result, the utilities could fall short of their goals simply because they declined the Commission's invitation to consider TRC measures.

To determine whether goals have been met with non-free-rider savings, the Commission's compliance review will need to establish from evaluation results the share of measured program savings attributable to free riders. Based on its review of evaluation studies, the Commission may want to prescribe changes to program strategies to reduce free-ridership, particularly if it finds that free-ridership is undermining utility efforts to comply with the goals requirements and that free-ridership is exacerbated by sole reliance on RIM-passing measures. To ensure that it has sufficient information to assess the effects of free-ridership, the Commission should direct utilities to:

- provide all free-ridership assumptions incorporated in savings estimates in the DSM plans, and provide program-savings estimates both gross and net of assumed free-rider savings;
- report program performance and cost-effectiveness results both gross and net of measured free-rider savings;
- collect all process and impact evaluation data required to verify free-ridership assumptions in the DSM plans.

V. Compliance Review and Enforcement

To hold utilities to their annual goals, the Commission will need to review the performance of the utilities' DSM programs on an annual basis. These annual reviews can serve to enforce the Commission's command and control approach in two ways. First, the

of measure cost. The Commission limited this practice by requiring that the measure also be cost-effective under the participant test, which only counts participant expenditures as costs.

³⁷However, the utilities have not yet provided the data required to determine whether they accounted for the effect of incentive levels on free-ridership.

compliance reviews would carry the threat of financial penalties for inadequate program achievements in the previous year. Second, the Commission can take timely action to increase the likelihood that future goals are met by prescribing improvements in program strategies.

Neither of these enforcement mechanisms would be as effective if applied less frequently than on an annual basis. Although retrospective penalties could be imposed years after the fact, their effect on utility decision-making would likely diminish as the threat becomes less immediate. Prescriptions for program-design changes could be crafted on the basis of more than one year's worth of implementation experience.³⁸ However, each year's delay in effecting needed design improvements could mean another year of noncompliance.

Fortunately, the Commission need not open new proceedings solely for the purpose of reviewing goals achievements. Instead, such reviews can be undertaken as part of the annual ECCR proceedings.

There are a number of advantages to coupling an annual prudence review of DSM spending with an assessment of savings achievements from DSM spending. The Commission's considerations of appropriate remedies for inadequate achievements would benefit from evidence on the prudence of a utility's management of its programs; evidence of imprudence could buttress arguments for Commission-mandated program modifications in addition to performance penalties.³⁹ Alternatively, a review of savings achievements could indicate that DSM budgets were expended on ineffective or non-cost-effective program efforts; such findings could be germane to considerations of management prudence.

Although we agree with the Commission's decision to apply penalties on a case-by-case basis, we recommend that the Commission adopt a consistent approach for determining the magnitude of a performance penalty. Adopting a penalty mechanism would signal clearly the Commission's intent to strenuously enforce its goals directives. A formalized mechanism would also make transparent the

³⁸In fact, the Commission may want to defer the first round of compliance reviews until results from impact evaluations are available. Full impact evaluations may take eighteen months to two years to complete. However, interim results may be available in a shorter time frame, especially if specialized evaluation techniques are employed. See the discussion of implementation analyses above.

³⁹However, the decision to impose a noncompliance penalty should not be contingent on a finding of imprudence. Conversely, cost disallowances could be warranted in conjunction with performance penalties if program costs were imprudently incurred.

utilities' exposure to financial penalties if they fail to comply with the goals mandates.⁴⁰

Finally, a properly designed mechanism could be applied symmetrically to provide either penalties for noncompliance or shareholder incentives for exceeding goals with TRC measures or programs that offer large savings with small rate effects. For example, shareholder incentive mechanisms have been adopted in several states that base the incentive on a share of the net economic benefits that result when pre-determined goals are exceeded. In some states, these mechanisms are designed to impose symmetrical penalties equivalent to a share of the net economic loss resulting from a failure to realize pre-set goals.

These shared-savings mechanisms generally rely on straightforward methods to calculate and apply an incentive or penalty for exceeding or falling short of a pre-set goal. Gross benefits are measured as the difference in avoided supply (generation, T&D, reserve) costs avoided by the savings in excess of the goal.⁴¹ Net benefits are simply gross benefits less any additional DSM spending to acquire the excess savings. The shareholder incentive is then set as a percentage of total net benefits.⁴² Where savings fall short of goals, the penalty calculation mirrors that for an incentive.

The exact form of the penalty-incentive mechanism for goals compliance does not need to be finalized at this time. Instead, the Commission should formally designate the annual ECCR proceedings as the venue for its compliance reviews and indicate its intent to consider proposals for penalty-incentive mechanisms during the first round of reviews. A directive from the Commission in this regard will serve notice on the utilities of the Commission's commitment to finding equitable means for penalizing inadequate achievements and rewarding exemplary performance.

⁴⁰Adopting a formal penalty mechanism would not limit the Commission's authority to impose additional penalties or disallowances for management imprudence.

⁴¹The gross benefits are typically calculated as the present value of avoided costs over the life of the excess savings.

⁴²In some jurisdictions, the percentage share of net benefits or loss increases with the amount that savings exceed or fall short of the goal.

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March 8, 1995

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FPSC-RECORDS/REPORTING

Ms. Blanca Bayo
Public Service Commission
Records and Reporting office

Ms. Bayo:

I am a representative of the Florida Housing Coalition, a state-wide association of bankers, realtors, community development specialists, and affordable housing advocates. Please register me as an interested party for the following docket numbers:

94 1170 - EG
94 1171 - EG
94 1172 - EG
94 1173 - EG

I can be reached at (904) 878 4219 or at the mailing address Florida Housing Coalition, P.O. Box 932, Tallahassee, FL 32302.

Thank you for your assistance.

Cordially,

Michael Chaney



Project for an Energy Efficient Florida

707 East Park Avenue • Tallahassee, Florida 32301 • (904) 222-0808

February 29, 1995

Mr. Dan Strickland
Public Service Commission
101 East Gaines Street
Tallahassee, Florida 32399

Dear Mr. Strickland:

For our recent conversation, I am faxing this request to change the name you have on your mailing list as follows:

Please replace **Project for and Energy Efficient Florida**
David Dismukes
707 E. Park Avenue
Tallahassee, FL 32301

for Docket No.s 941173-EG, 941171-EG and 941170-EG

with **Project for and Energy Efficient Florida**
Marcia K. Elder
707 E. Park Avenue
Tallahassee, FL 32301

Thank you for your cooperation.

Sincerely,

Denise Turner
Denise Turner

Post-It™ Fax Note	7071	Date of	2/29/95	# of pages	1
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A Project of the Florida Chapter, American Planning Association
Project Director: Marcia K. Elder



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2/28/95

Re: FPSC dockets 941170, 941171, 941172, 941173

Dear Clerk:

The Florida Client Council has not intervened in these dockets and we are not an official party of record. We desire to remain on the mailing lists for these dockets as an interested party.

Benjamin Ochshorn
Florida Legal Services
Attorney for Florida Client Council.

**-M-E-M-O-R-A-N-D-U-M-**

DATE: February 10, 1995
TO: Blanca S. Bayó, Director, Division of Records & Reporting
FROM: Joseph W. McCormick, Chief of Gas Regulation, Division of Electric & Gas
RE: Notification of conflict of interest - Joseph W. McCormick

The attached memo to Mr. Talbott reports offers of employment made to me by City Gas Company of Florida and by Peoples Gas System, Inc. Section 5.02 B.1.c. of the Commission's Administrative Procedures Manual states:

"Notice of each job offer, unless immediately declined, and each application reported pursuant to B.1. above, shall be forwarded to all parties and interested persons listed in the docket file in all open dockets to which the prospective employer or affiliated company is a party and the employee is assigned."

The Case Management System indicates that I am assigned to these cases in which City Gas or Peoples Gas or both are parties. Each case constitutes a conflict of interest.

- 940276-GU Application for rate increase by City Gas Company of Florida ✓
- 941104-EG Development of Cost-Effectiveness Methodology for Gas Utility ✓
Demand Side Management
- 941170-EG Approval of Demand-Side Management Plan of Florida Power and ✓
Light Company
- 941171-EG Approval of Demand-Side Management Plan of Florida Power ✓
Corporation
- 941173-EG Approval of Demand-Side Management Plan of Tampa Electric ✓
Company
- 941324-GU Petition for approval of Load Profile Enhancement Discount Rider to ✓
Rate Schedules RS, SGS, GS, GSLV-a, GSLV-2 and GTSLV-2 by
Peoples Gas System, Inc.
- 950002-EG Conservation Cost Recovery Clause ✓
- 941100-GU Peoples Gas Application for authority to issue and sell securities ✓
- 941233-GU Peoples Gas petition re: timely filing of regulatory assessment fees ✓

I am not listed on the CASRs as staff, but supervise staff persons assigned to the following dockets:

- 941165-PU Peoples Gas complaint against TECO re: water heaters ✓
- 950003-GU Purchased Gas Adjustment ✓

cc: William D. Talbott, Executive Director
 Joseph D. Jenkins, Director, Division of Electric and Gas
 Robert L. Trapp, Assistant Director, Division of Electric and Gas

FEB 10



Public Service Commission

-M-E-M-O-R-A-N-D-U-M-

DATE: February 9, 1995
TO: William D. Talbott, Executive Director
FROM: Joseph W. McCormick, Chief of Gas Regulation *Joe* Division of Electric & Gas
RE: Offers of employment by regulated utilities

At approximately 4:30 PM, Tuesday, February 7, 1995, Rand W. Smith, Vice President of Finance for City Gas Company of Florida contacted me by telephone to ask if I might be interested in a position with City Gas Company. The position initially discussed is related to the one the company has been advertising for a Regulatory Liaison person. We also discussed other possibilities.

Yesterday, I mailed a resume to Mr. Smith at City Gas and intend to pursue discussions with the company to determine whether we can mutually agree on conditions of my employment with City Gas.

Today, Jack Uhl, Executive Vice President of Peoples Gas System, Inc. called me. He asked if there was truth to rumors he had heard that I was considering leaving Commission employment. When I confirmed that I am considering an offer made to me by City Gas, Mr. Uhl said Peoples Gas would also like the opportunity to offer me a position, but did not specify the nature of any position at this time.

These contacts constitute an application for employment as defined in 5.02 B.1.a. and 5.02 B.1.b, of the Commission's Administrative Procedures Manual (APM). This memorandum is sent in compliance with 5.02 B.1.b. of the APM. I advised both Mr. Smith of City Gas and Mr. Uhl of Peoples Gas that I would send a memorandum to notify you of these employment related contacts.

cc: Mary Bane, Deputy Executive Director/Technical
Joe Jenkins, Director, Division of Electric and Gas
Bob Trapp, Assistant Director, Division of Electric and Gas
Bureau of Gas Regulation

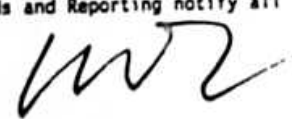
February 10, 1995

Joe Jenkins:

Joe McCormick should be prohibited from working on and/or supervising matters, docketed or undocketed, that would be a conflict of interest.

Please get with Joe and identify any dockets that he is participating in and to which these prospective employers or affiliated companies are a party, and request that Records and Reporting notify all interested parties in those dockets.

c: Paul Nichols, Chief of Personnel
Mary Bane, Deputy Executive Director/Tech.
Jack Shreve, Public Counsel



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(904) 488-8371

Public Service Commission

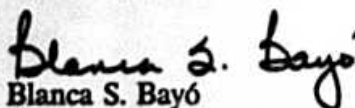
February 13, 1995

To Parties of Record in Docket No. **941170-EG**:

Section 5.02 B.1.c. of the Commission's Administrative Procedures Manual requires that notification be given to all parties in docketed matters before the Commission if a staff member involved in one or more dockets indicates that he or she intends to seek employment with any one of the parties or interested persons--including the prospective employer or affiliated company--in those dockets.

In accordance with that procedure, you are hereby notified that Joseph W. McCormick, Chief of Gas Regulation of the Commission's Division of Electric and Gas, has advised the Commission that he intends to pursue discussions with City Gas Company of Florida regarding a position as Regulatory Liaison person. Mr. McCormick has also been contacted by Peoples Gas System, Inc. regarding the possibility of employment there. To avoid any possible conflict of interest, Mr. McCormick has been removed from participation in all affected dockets, including Docket No. 941170-EG, Approval of Demand-Side Management Plan of Florida Power and Light Company.

Sincerely,


Blanca S. Bayo

cc: William D. Talbott
Joseph D. Jenkins
Robert L. Trapp
Joseph W. McCormick

FLORIDA PUBLIC SERVICE COMMISSION - RECORDS AND REPORTING
Requisition for Photocopying and Mailing

2174
 Number of Originals 10 Date 12, 2, 94 Copies Per Original 53

Requested By [Signature] Item Presented _____
 Order No. 94-1486 In Docket No. 941170-EP

Agenda For (Date) _____ For (Date) _____
 Notice of _____ In Docket No. 941171
 Other _____ 941172
941173

Special Handling Instructions
Request - Part to 5 only. Samples Part
(MAIL TODAY)

Distribution/Mailing		Number	Distribution/Mailed To
Number	Distributed/Mailed To		
<u>15</u>	Commission Offices		
<u>33</u>	Docket Mailing List		

Note: Items must be mailed and/or returned within one working day after issue unless specified here:

Print Shop Verification _____
 Job Number _____ Verified By _____
 Date and Time Completed _____ Job Checked For Correctness and Quality (Initial) _____

Mail Room Verification _____
 Date Mailed 12-2-94 Verified By [Signature]



ENERGY ADVOCACY PROGRAM

DEBRA "DEB" SWIM

Attorney

1115 NORTH GADSDEN
TALLAHASSEE, FLORIDA 32303-6327

904-681-2591

11/8/94

Please ~~send~~ ~~to~~ ~~copy~~ place me
on the mailing list and
forward ~~to~~ ~~address~~ documents
to the above address.

Thank you.

D. Swim

Re: Dockets 941170 EG through

941173 EG

RECEIVED
NOV 8 1994
FISC RECORDS/REPORTING

Section 1 - Division of Records and Reporting (RAR) Completes

Docket No. 941170-EG Date Docketed: 11/03/94 Title: Approval of Demand-Side Management Plan of FLORIDA POWER & LIGHT COMPANY.
 Company: Florida Power & Light Company

Official Filing Date: _____ Expiration: _____
 Last Day to Suspend: _____
 Referred to: _____
 ("(") indicates OPR)

ADM AFA APP CAF CMU (EAG) GCL LEG RAR RRR WAW

_____ X _____ X _____

Section 2 - OPR Completes and returns to RAR in 10 workdays.

Time Schedule

Program/Module C1

Staff Assignments

OPR Staff R Shine, T Ballinger, R Floyd, E Mills

Staff Counsel M Palecki, M Brown

OCRs ()

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Recommended assignments for hearing and/or deciding this case:

Full Commission X Commission Panel _____
 Hearing Examiner _____ Staff _____

Date filed with RAR: 08/31/95

Initials: OPR _____
 Staff Counsel _____

Warning: This schedule is tentative and subject to revision

Current CASR revision level

5

Due Dates

Previous Current

1. Staff Recommendation	08/31/95	09/14/95
2. Agenda - Regular	09/12/95	09/26/95
3. Order on Procedure	09/15/95	09/27/95
4. Standard Order	09/18/95	10/02/95
5. Testimony - Company	09/21/95	10/02/95
6. Testimony - Intervenor's	10/12/95	10/23/95
7. Testimony - Rebuttal	10/26/95	11/06/95
8. Prehearing Statements	11/03/95	11/13/95
9. Prehearing	SAME	11/20/95
10. Discovery Actions Complete	11/09/95	11/20/95
11. Prehearing Order	SAME	11/28/95
12. Hearing 11/30 - 12/1/95	SAME	11/30/95
13. Transcripts Due	SAME	12/18/95
14. Briefs Due	SAME	01/08/96
15. Staff Recommendation	SAME	02/08/96
16. Agenda - Regular	SAME	02/20/96
17. Standard Order	SAME	03/11/96
18. Close Docket or Revise CASR	SAME	04/10/96
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Section 3 - Chairman Completes

Assignments are as follows:

- Hearing Officer(s)

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
X							

Where panels are assigned the senior Commissioner is Panel Chairman; the identical panel decides the case.
 Where one Commissioner, a Hearing Examiner or a Staff Member is assigned the full Commission decides the case.

- Prehearing Officer

Commissioners					ADM
CL	DS	JN	KS	GR	
	X				

Approved: SFC/wj

Date: pending 9/13/95

Section 1 - Division of Records and Reports (RAR) Completes

Docket No. 941170-EG Date Docketed: 11/03/94 Title: Approval of Demand-Side Management Plan of FLORIDA POWER & LIGHT COMPANY.
 Company: Florida Power & Light Company

Official Filing Date: _____
 Last Day to Suspend: _____ Expiration: _____

Referred to: _____
 ("(") indicates OPR) ADM AFA APP CAF CMU (EAG) GCL LEG RAR RRR MAW
 _____ X _____ X _____

Section 2 - OPR Completes and returns to RAR in 10 workdays.

Time Schedule

Program/Module C1

Staff Assignments

OPR Staff R Shine, T Ballinger, R Floyd, E Mills

Staff Counsel M Palecki, M Brown

OCRs () _____

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Recommended assignments for hearing and/or deciding this case:

Full Commission X Commission Panel _____
 Hearing Examiner _____ Staff _____

Date filed with RAR: 08/21/95

Initials: OPR _____
 Staff Counsel _____

Warning: This schedule is tentative and subject to revision

Current CASR revision level

4

Due Dates

Previous Current

1. Staff Recommendation	08/17/95	08/31/95
2. Agenda - Regular	08/29/95	09/12/95
3. Order on Procedure	08/31/95	09/15/95
4. Testimony - Company	08/28/95	09/21/95
5. Standard Order	09/18/95	10/02/95
6. Testimony - Intervenor's	09/25/95	10/12/95
7. Testimony - Rebuttal	10/16/95	10/26/95
8. Prehearing Statements	SAME	11/03/95
9. Discovery Actions Complete	SAME	11/09/95
10. Prehearing	SAME	11/20/95
11. Prehearing Order	SAME	11/28/95
12. Hearing 11/30 - 12/1/95	SAME	11/30/95
13. Transcripts Due	SAME	12/18/95
14. Briefs Due	SAME	01/08/96
15. Staff Recommendation	SAME	02/08/96
16. Agenda - Regular	SAME	02/20/96
17. Standard Order	SAME	03/11/96
18. Close Docket or Revise CASR	SAME	04/10/96
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Section 3 - Chairman Completes

Assignments are as follows:

- Hearing Officer(s)

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
X							

- Prehearing Officer

Commissioners					ADM
CL	DS	JN	KS	GR	
	X				

Where panels are assigned the senior Commissioner is Panel Chairman; the identical panel decides the case.
 Where one Commissioner, a Hearing Examiner or a Staff Member is assigned the full Commission decides the case.

Approved: SFC/wj

Date: Pending 8/24/95

Case Assignment and Scheduling Record

Section 1 - Division of Records and Reporting (RAR) Completes

Docket No. 941170-EG Date Docketed: 11/03/94 Title: Approval of Demand-Side Management Plan of FLORIDA POWER & LIGHT COMPANY.
 Company: Florida Power & Light Company

Official Filing Date: _____
 Last Day to Suspend: _____ Expiration: _____

Referred to: ADM AFA APP CAF CMU (EAG) GCL LEG RAR RRR WAW
 ("(") indicates OPR) _____ X _____ X _____

Section 2 - OPR Completes and returns to RAR in 10 workdays.

Time Schedule

Program/Module C1

Staff Assignments

OPR Staff R Shine, T Ballinger, R Floyd, E Mills

Staff Counsel M Palecki, M Brown

OCRs () _____

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Recommended assignments for hearing and/or deciding this case:

Full Commission X Commission Panel _____
 Hearing Examiner _____ Staff _____

Date filed with RAR: 07/31/95

Initials: OPR _____
 Staff Counsel _____

Warning: This schedule is tentative and subject to revision

Current CASR revision level

3

Due Dates

Previous Current

1. Workshop Issue ID	SAME	08/14/95
2. Staff Recommendation	NONE	08/17/95
3. Agenda - Regular	NONE	08/29/95
4. Order on Procedure	07/24/95	08/31/95
5. Commissioner Workshop (9/6-8/95, if needed)	SAME	09/05/95
6. Standard Order	NONE	09/18/95
7. Testimony - Company	08/28/95	09/21/95
8. Testimony - Intervenor's	09/25/95	10/12/95
9. Testimony - Rebuttal	10/16/95	10/26/95
10. Prehearing Statements	SAME	11/03/95
11. Discovery Actions Complete	SAME	11/09/95
12. Prehearing	SAME	11/20/95
13. Prehearing Order	SAME	11/28/95
14. Hearing 11/30 - 12/1/95	SAME	11/30/95
15. Transcripts Due	SAME	12/18/95
16. Briefs Due	SAME	01/08/96
17. Staff Recommendation	SAME	02/08/96
18. Agenda - Regular	SAME	02/20/96
19. Standard Order	SAME	03/11/96
20. Close Docket or Revise CASR	SAME	04/10/96
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Section 3 - Chairman Completes

Assignments are as follows:

- Hearing Officer(s)

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
X							

- Prehearing Officer

Commissioners					ADM
CL	DS	JN	KS	GR	
	X				

Where panels are assigned the senior Commissioner is Panel Chairman; the identical panel decides the case.
 Where one Commissioner, a Hearing Examiner or a Staff Member is assigned the full Commission decides the case.

Approved: SFC/ly
 Date: Pending 8/8/95

Case Assignment and Scheduling Record

Section 1 - Division of Records and Reporting (RAR) Completes

Docket No. 941170-BG Date Docketed: 11/03/94 Title: Approval of Demand-Side Management Plan of FLORIDA POWER AND LIGHT COMPANY.
 Company: Florida Power and Light Company

Official Filing Date: _____
 Last Day to Suspend: _____ Expiration: _____

Referred to: ADM APA APP CAP CMU (EAG) GCL LRG RAR RRR WAW
 ("()") indicates OPR) _____ X _____ X _____

Section 2 - OPR Completes and returns to RAR in 10 workdays.

Time Schedule

Program/Module C1

Warning: This schedule is tentative and subject to revision

Staff Assignments

OPR Staff R Shine, T Ballinger, R Floyd,
 J McCormick, E Mills

Staff Counsel M Palecki

OCRs () _____

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Current CASR revision level

1

Due Dates

Previous Current

1. Staff Recommendation	NONE	05/04/95
2. Agenda - Regular	04/18/95	05/16/95
3. PAA Order	05/08/95	06/05/95
4. Close Docket or Revise CASR	06/07/95	07/05/95
5. Hearing (9/5-8/95)	SAME	09/05/95
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Recommended assignments for hearing and/or deciding this case:

Full Commission X Commission Panel _____
 Hearing Examiner _____ Staff _____

Date filed with RAR: 03/02/95

Initials: OPR _____
 Staff Counsel _____

Section 3 - Chairman Completes

Assignments are as follows:

- Hearing Officer(s)

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
X							

- Prehearing Officer

Commissioners					ADM
CL	DS	JN	KS	GR	
	X				

Where panels are assigned the senior Commissioner is Panel Chairman; the identical panel decides the case.
 Where one Commissioner, a Hearing Examiner or a Staff Member is assigned the full Commission decides the case.

Approved: SFC lw
 Date: Pending 3/13/95

Case Assignment and Scheduling Record

Section 1 - Division of Records and Reporting (RAR) Completes

Docket No. 941170-EG

Date Docketed: 11/03/94

Title: Approval of Demand-Side Management Plan of FLORIDA POWER & LIGHT COMPANY.

Company: Florida Power and Light Company

Official Filing Date: _____
Last Day to Suspend: _____

Expiration: _____

Referred to:
("C)" indicates OPR)

ADM AFA APP CAF CHU (EAG) GCL LEG RAR RRR WAW
_____ _____ _____ _____ _____ X _____ X _____ _____ _____

Section 2 - OPR Completes and returns to RAR in 10 workdays.

Time Schedule

Program/Module C1

Staff Assignments

OPR Staff _____

Staff Counsel _____

OCRs () _____

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Recommended assignments for hearing and/or deciding this case:

Full Commission _____ Commission Panel _____
Hearing Examiner _____ Staff _____

Date filed with RAR: _____

Initials: OPR _____
Staff Counsel _____

Warning: This schedule is tentative and subject to revision

Current CASR revision level

0

Due Dates

Previous Current

1.	_____	_____	_____
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Section 3 - Chairman Completes

Assignments are as follows:

- Hearing Officer(s)

Commissioners						Hrg. Exam.	Staff
ALL	DS	CL	JN	KS	GR		

Where panels are assigned the senior Commissioner is Panel Chairman; the identical panel decides the case.
Where one Commissioner, a Hearing Examiner or a Staff Member is assigned the full Commission decides the case.

- Prehearing Officer

Commissioners					ADM
DS	CL	JN	KS	GR	

Approved: _____

Date: / /

* COMPLETED EVENTS

Case Scheduling/Rescheduling Advice

10/16/95

To:

<input checked="" type="checkbox"/>	Commissioner Deason
<input checked="" type="checkbox"/>	Commissioner Johnson
<input checked="" type="checkbox"/>	Commissioner Kiesling
<input checked="" type="checkbox"/>	Commissioner Garcia
<input checked="" type="checkbox"/>	Executive Director
<input checked="" type="checkbox"/>	Public Information Officer

<input checked="" type="checkbox"/>	Deputy Ex. Director/Technical
<input checked="" type="checkbox"/>	Appeals Director
<input checked="" type="checkbox"/>	Legal Director
<input checked="" type="checkbox"/>	Auditing & Financial Analysis Director
<input type="checkbox"/>	Communications Director
<input checked="" type="checkbox"/>	Consumer Affairs Director

<input checked="" type="checkbox"/>	Electric & Gas Director
<input checked="" type="checkbox"/>	Records & Reporting Director
<input checked="" type="checkbox"/>	Research Director
<input type="checkbox"/>	Water & Wastewater Director
<input checked="" type="checkbox"/>	Court Reporter
<input checked="" type="checkbox"/>	Staff Contact - M Brown

From: Office of Chairman Susan F. Clark

Docket No. 941170-EG

RECEIVED
OCT 16 1995

Title: Approval of Demand-Side Management Plan
of FLORIDA POWER & LIGHT COMPANY.

1. Schedule Information

FPSC-RECORDS/REPORTING

Event	Former Date	New Date	Location	Time
Prehearing Conference	11/20/95	Cancel	Tallahassee,148	13:30-17:00
Hearing	11/30/95	Cancel	Tallahassee,148	09:30-18:00
Hearing	12/01/95	Cancel	Tallahassee,148	09:30-18:00

Remarks: Docket(s): 941170,941171,941172,941173

Cancelled at 10/10/95 agenda conference

2. Hearing/Prehearing Assignment Information:

Former Assignments

Hearing

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
X							

New or Changed Assignments

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		

Prehearing

Officer

Commissioners						
CL	DS	JN	KS	GR	ADM	
	X					

Commissioners						
CL	DS	JN	KS	GR	ADM	

Remarks:

Document ID is 94117001.CCS

Case Scheduling/Rescheduling Advice

07/19/95

To:

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Commissioner Deason</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Commissioner Johnson</td></tr> <tr><td style="text-align: center;"><input type="checkbox"/></td><td>Commissioner Kiesling</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Commissioner Garcia</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Executive Director</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Public Information Officer</td></tr> </table>	<input checked="" type="checkbox"/>	Commissioner Deason	<input checked="" type="checkbox"/>	Commissioner Johnson	<input type="checkbox"/>	Commissioner Kiesling	<input checked="" type="checkbox"/>	Commissioner Garcia	<input checked="" type="checkbox"/>	Executive Director	<input checked="" type="checkbox"/>	Public Information Officer	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Deputy Ex. Director/Technical</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Appeals Director</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Legal Director</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Auditing & Financial Analysis Director</td></tr> <tr><td style="text-align: center;"><input type="checkbox"/></td><td>Communications Director</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Consumer Affairs Director</td></tr> </table>	<input checked="" type="checkbox"/>	Deputy Ex. Director/Technical	<input checked="" type="checkbox"/>	Appeals Director	<input checked="" type="checkbox"/>	Legal Director	<input checked="" type="checkbox"/>	Auditing & Financial Analysis Director	<input type="checkbox"/>	Communications Director	<input checked="" type="checkbox"/>	Consumer Affairs Director	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Electric & Gas Director</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Records & Reporting Director</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Research Director</td></tr> <tr><td style="text-align: center;"><input type="checkbox"/></td><td>Water & Wastewater Director</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Court Reporter</td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td><td>Staff Contact - M Palecki</td></tr> </table>	<input checked="" type="checkbox"/>	Electric & Gas Director	<input checked="" type="checkbox"/>	Records & Reporting Director	<input checked="" type="checkbox"/>	Research Director	<input type="checkbox"/>	Water & Wastewater Director	<input checked="" type="checkbox"/>	Court Reporter	<input checked="" type="checkbox"/>	Staff Contact - M Palecki
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<input checked="" type="checkbox"/>	Commissioner Johnson																																					
<input type="checkbox"/>	Commissioner Kiesling																																					
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<input checked="" type="checkbox"/>	Staff Contact - M Palecki																																					

From: Office of Chairman Susan F. Clark

Docket No. 941170-EG

RECEIVED

JUL 19 1995

Title: Approval of Demand-Side Management Plan
of FLORIDA POWER & LIGHT COMPANY.

1. Schedule Information

FPSC-RECORDS/REPORTING

Event	Former Date	New Date	Location	Time
Prehearing Conference	08/14/95	Cancel	Tallahassee, 148	09:30-14:00

Remarks: Docket(s): 941170

2. Hearing/Prehearing Assignment Information:

Former Assignments

New or Changed Assignments

Hearing

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
X							

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		

Prehearing Officer

Commissioners					
CL	DS	JN	KS	GR	ADM
	X				

Commissioners					
CL	DS	JN	KS	GR	ADM

Remarks:

Document ID is 94117002.CCS

PSC/NAN 8 (01/95)

FORM KEY IS 052395150848

Case Scheduling/Rescheduling Advice

07/12/95

To:

<input checked="" type="checkbox"/> Commissioner Deason	<input checked="" type="checkbox"/> Deputy Ex. Director/Technical	<input checked="" type="checkbox"/> Electric & Gas Director
<input checked="" type="checkbox"/> Commissioner Johnson	<input checked="" type="checkbox"/> Appeals Director	<input checked="" type="checkbox"/> Records & Reporting Director
<input checked="" type="checkbox"/> Commissioner Kiesling	<input checked="" type="checkbox"/> Legal Director	<input checked="" type="checkbox"/> Research Director
<input checked="" type="checkbox"/> Commissioner Garcia	<input checked="" type="checkbox"/> Auditing & Financial Analysis Director	<input type="checkbox"/> Water & Wastewater Director
<input checked="" type="checkbox"/> Executive Director	<input type="checkbox"/> Communications Director	<input checked="" type="checkbox"/> Court Reporter
<input checked="" type="checkbox"/> Public Information Officer	<input checked="" type="checkbox"/> Consumer Affairs Director	<input checked="" type="checkbox"/> Staff Contact - M Palecki

From: Office of Chairman Susan F. Clark

Docket No. **941170-EG**

RECEIVED

JUL 1 1995

Title: Approval of Demand-Side Management Plan
of FLORIDA POWER & LIGHT COMPANY.

1. Schedule Information

FPSC-RECORDS/REPORTING

Event	Former Date	New Date	Location	Time
Prehearing Conference		11/20/95	Tallahassee, 148	13:30-17:00
Hearing		11/30/95	Tallahassee, 148	09:30-18:00
Hearing		12/01/95	Tallahassee, 148	09:30-18:00

Remarks: Docket(s): 941170,941171,941172,941173

2. Hearing/Prehearing Assignment Information:

Former Assignments

New or Changed Assignments

Hearing

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
X							

Prehearing Officer

Commissioners						
CL	DS	JN	KS	GR	ADM	

Commissioners						
CL	DS	JN	KS	GR	ADM	
	X					

Remarks:

Document ID is 94117001.CCS

PSC/NAN 8 (01/95)

FORM KEY IS 071295164520

Case Scheduling/Rescheduling Advice
06/12/95

To:

<input checked="" type="checkbox"/> Commissioner Deason	<input checked="" type="checkbox"/> Deputy Ex. Director/Technical	<input checked="" type="checkbox"/> Electric & Gas Director
<input checked="" type="checkbox"/> Commissioner Johnson	<input checked="" type="checkbox"/> Appeals Director	<input checked="" type="checkbox"/> Records & Reporting Director
<input checked="" type="checkbox"/> Commissioner Kiesling	<input checked="" type="checkbox"/> Legal Director	<input checked="" type="checkbox"/> Research Director
<input checked="" type="checkbox"/> Commissioner Garcia	<input checked="" type="checkbox"/> Auditing & Financial Analysis Director	<input type="checkbox"/> Water & Wastewater Director
<input checked="" type="checkbox"/> Executive Director	<input type="checkbox"/> Communications Director	<input checked="" type="checkbox"/> Court Reporter
<input checked="" type="checkbox"/> Public Information Officer	<input checked="" type="checkbox"/> Consumer Affairs Director	<input checked="" type="checkbox"/> Staff Contact - M Palecki

From: Office of Chairman Susan F. Clark

Docket No. 941170-EG
941171-EG
941172-EG
941173-EG

RECEIVED
JUN 20 1995

Title: Approval of Demand-Side Management Plan
of FLORIDA POWER & LIGHT COMPANY,
FLORIDA POWER CORP. GULF AND TECO

1. Schedule Information FPSC-RECORDS/REPORTING

Event	Former Date	New Date	Location	Time
Commissioner Workshop		09/05/95	Tallahassee, 148	09:30-18:00
Commissioner Workshop (HOLD)		09/06/95	Tallahassee, 148	09:30-18:00
Commissioner Workshop (HOLD)		09/07/95	Tallahassee, 148	09:30-18:00
Commissioner Workshop (HOLD)		09/08/95	Tallahassee, 148	09:30-18:00

Remarks: Docket(s): 941170, 941171, 941172, 941173

2. Hearing/Prehearing Assignment Information:

Former Assignments

Hearing	Commissioners						Hrg. Exam.	Staff
	ALL	CL	DS	JN	KS	GR		

New or Changed Assignments

	Commissioners						Hrg. Exam.	Staff
	ALL	CL	DS	JN	KS	GR		
	X							

Prehearing Officer

Commissioners						
CL	DS	JN	KS	GR	ADM	

Commissioners						
CL	DS	JN	KS	GR	ADM	
	X					

Remarks:

Case Scheduling/Rescheduling Advice

05/23/95

To: Commissioner Deason
 Commissioner Johnson
 Commissioner Kiesling
 Commissioner Garcia
 Executive Director
 Public Information Officer

Deputy Ex. Director/Technical
 Appeals Director
 Legal Director
 Auditing & Financial Analysis Director
 Communications Director
 Consumer Affairs Director

Electric & Gas Director
 Records & Reporting Director
 Research Director
 Water & Wastewater Director
 Court Reporter
 Staff Contact - M Palecki

From: Office of Chairman Susan F. Clark

Docket No. 941170-EG

RECEIVED

Title: Approval of Demand-Side Management Plan
of FLORIDA POWER & LIGHT COMPANY.

JUN - 6 1995

1. Schedule Information

FPSC-RECORDS/REPORTING

Event	Former Date	New Date	Location	Time
Commissioner Workshop		09/05/95	Tallahassee, 106	09:30-18:00

Remarks: Docket(s): 941170, 941171,941172,941173

2. Hearing/Prehearing Assignment Information:

Former Assignments

New or Changed Assignments

Hearing

Commissioners						Hrg. Exam.	Staff
A/L	CL	DS	JN	KS	GR		

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
X							

Prehearing
Officer

Commissioners					
CL	DS	JN	KS	GR	ADM

Commissioners					
CL	DS	JN	KS	GR	ADM

Remarks:

Document ID is 94117002.CCS

Scheduling/Rescheduling Advice
05/23/95

To:

<input checked="" type="checkbox"/>	Commissioner Deason
<input checked="" type="checkbox"/>	Commissioner Johnson
<input checked="" type="checkbox"/>	Commissioner Kiesling
<input checked="" type="checkbox"/>	Commissioner Garcia
<input checked="" type="checkbox"/>	Executive Director
<input checked="" type="checkbox"/>	Public Information Officer

<input checked="" type="checkbox"/>	Deputy Ex. Director/Technical
<input checked="" type="checkbox"/>	Appeals Director
<input checked="" type="checkbox"/>	Legal Director
<input checked="" type="checkbox"/>	Auditing & Financial Analysis Director
<input type="checkbox"/>	Communications Director
<input checked="" type="checkbox"/>	Consumer Affairs Director

<input checked="" type="checkbox"/>	Electric & Gas Director
<input checked="" type="checkbox"/>	Records & Reporting Director
<input checked="" type="checkbox"/>	Research Director
<input type="checkbox"/>	Water & Wastewater Director
<input checked="" type="checkbox"/>	Court Reporter
<input checked="" type="checkbox"/>	Staff Contact - M Palecki

From: Office of Chairman Susan F. Clark

Docket No. 941170-EG

Title: Approval of Demand-Side Management Plan
of FLORIDA POWER & LIGHT COMPANY.

RECEIVED

MAY 23 1995

1. Schedule Information

Event	FRSC-RECORDING	From Date	New Date	Location	Time
Commissioner Workshop			09/05/95	Tallahassee, 106	09:30-18:00

Remarks: Docket(s): 941170, 941171, 941172, 941173

2. Hearing/Prehearing Assignment Information:

Former Assignments

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		

New or Changed Assignments

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
X							

Prehearing Officer

Commissioners						
CL	DS	JN	KS	GR	ADM	

Commissioners						
CL	DS	JN	KS	GR	ADM	

Remarks:

Document ID is 94117002.CCS

PSC/NAN 8 (01/95)

FORM KEY IS 052395150848

Case Scheduling/Rescheduling Advice

05/23/95

To: <input checked="" type="checkbox"/> Commissioner Deason <input checked="" type="checkbox"/> Commissioner Johnson <input checked="" type="checkbox"/> Commissioner Kiesling <input checked="" type="checkbox"/> Commissioner Garcia <input checked="" type="checkbox"/> Executive Director <input checked="" type="checkbox"/> Public Information Officer	<input checked="" type="checkbox"/> Deputy Ex. Director/Technical <input checked="" type="checkbox"/> Appeals Director <input checked="" type="checkbox"/> Legal Director <input checked="" type="checkbox"/> Auditing & Financial Analysis Director <input type="checkbox"/> Communications Director <input checked="" type="checkbox"/> Consumer Affairs Director	<input checked="" type="checkbox"/> Electric & Gas Director <input checked="" type="checkbox"/> Records & Reporting Director <input checked="" type="checkbox"/> Research Director <input type="checkbox"/> Water & Wastewater Director <input checked="" type="checkbox"/> Court Reporter <input checked="" type="checkbox"/> Staff Contact - M Palecki
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From: Office of Chairman Susan F. Clark

Docket No. 941170-EG

RECEIVED

Title: Approval of Demand-Side Management Plan
of FLORIDA POWER & LIGHT COMPANY.

MAY 23 1995

1. Schedule Information

Event	Former Date	New Date	Location	Time
Commissioner Workshop		09/05/95	Tallahassee, 106	09:30-18:00

Remarks: Docket(s): 941170, 941171, 941172, 941173

2. Hearing/Prehearing Assignment Information:

Former Assignments

Hearing	Commissioners						Hrg. Exam.	Staff
	ALL	CL	DS	JN	KS	GR		

New or Changed Assignments

	Commissioners						Hrg. Exam.	Staff
	ALL	CL	DS	JN	KS	GR		
	X							

Prehearing
Officer

Commissioners						
CL	DS	JN	KS	GR	ADM	

Commissioners						
CL	DS	JN	KS	GR	ADM	

Remarks:

Document ID is 94117002.CCS

PSC/NAN 8 (01/95)

FORM KEY IS 052395150848

Case Scheduling/Rescheduling Notice

04/05/95

To: Commissioner Deason Deputy Ex. Director/Technical Electric & Gas Director
 Commissioner Johnson Appeals Director Records & Reporting Director
 Commissioner Kiesling Legal Director Research Director
 Commissioner Garcia Auditing & Financial Analysis Director Water & Wastewater Director
 Executive Director Communications Director Court Reporter
 Public Information Officer Consumer Affairs Director Staff Contact - M Palecki

From: Office of Chairman Susan F. Clark

Docket No. 941170-EG

Title: Approval of Demand-Side Management Plan
of FLORIDA POWER & LIGHT COMPANY.

RECEIVED
APR 10 1995

FPSC-RECORDS/REPORTING

1. Schedule Information

Event	Former Date	New Date	Location	Time
Staff Meeting		04/10/95	Tallahassee, 122	10:30-18:00

Remarks: Docket(s): 941170-73

2. Hearing/Prehearing Assignment Information:

Former Assignments

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		

New or Changed Assignments

Commissioners						Hrg. Exam.	Staff
ALL	CL	DS	JN	KS	GR		
							X

Prehearing Officer

Commissioners						
CL	DS	JN	KS	GR	ADM	

Commissioners						
CL	DS	JN	KS	GR	ADM	

Remarks:

Document ID is 94117001.CCS

Case Scheduling/Rescheduling Office

04/05/95

To: Commissioner Deason
 Commissioner Johnson
 Commissioner Kiesling
 Commissioner Garcia
 Executive Director
 Public Information Officer

Deputy Ex. Director/Technical
 Appeals Director
 Legal Director
 Auditing & Financial Analysis Director
 Communications Director
 Consumer Affairs Director

Electric & Gas Director
 Records & Reporting Director
 Research Director
 Water & Wastewater Director
 Court Reporter
 Staff Contact - M Palecki

From: Office of Chairman Susan F. C.

Docket No. 941170-EG

RECEIVED
 APR - 5 1995

Title: **Approval of Demand-Side Management Plan
 of FLORIDA POWER & LIGHT COMPANY.**

FPSC-RECORDS/REPORTING

1. Schedule Information

Event	Former Date	New Date	Location	Time
Staff Meeting		04/10/95	Tallahassee, 122	10:30-18:00

Remarks: Docket(s): 941170-73

2. Hearing/Prehearing Assignment Information:

Former Assignments

Hearing	Commissioners						Hrg. Exam.	Staff
	ALL	CL	DS	JN	KS	GR		

New or Changed Assignments

Hearing	Commissioners						Hrg. Exam.	Staff
	ALL	CL	DS	JN	KS	GR		
							X	

Prehearing Officer

Commissioners						
CL	DS	JN	KS	GR	ADM	

Commissioners						
CL	DS	JN	KS	GR	ADM	

Remarks:

Document ID is 94117001.CCS

PSC/NAN 8 (01/95)

FORM KEY IS 040395145601