August 29, 1995

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

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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

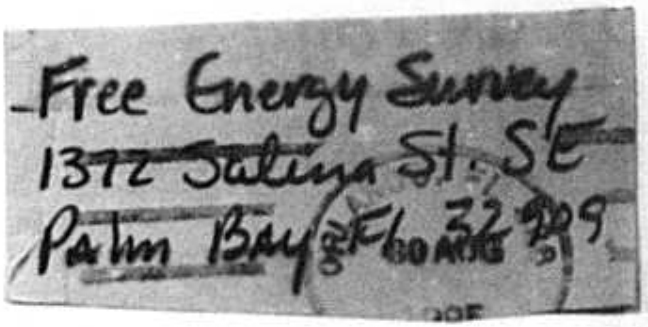
about solar hot water heating, the electric company representatives suggest that you don't use solar. The electric company has not been fair in promoting solar hot water heating and that can be proven. If a customer has an on call box, they have to call and disconnect the box before they can get solar. 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
Roseellen Meek



CERTIFICATE OF SERVICE

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

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CERTIFICATE OF SERVICE

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

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PSC Commissioner
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Tallahassee, Florida 32399-0850

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Ms. Colleen Kettels
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Crystal River, Florida 34429

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

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 G. Nolley
Donnie Nolley
Free Energy Survey

1372 Salina St. SE - Palm Bay, Fl 32909 - 407-724-8701 - FAX - 407-725-5317

JOHN COLLINS, 8, of Cocoa Beach found a cool spot Tuesday: underwater at the Cocoa Beach Recreation Complex.

Increased demand, 5 broken generators may mean brownouts

By Kathy Reakes
FLORIDA TODAY

As 100-plus degree temperatures settled in across the state, a heat alert Tuesday only compounded problems for the state's largest power company as it asked customers to conserve power.

Highs in the upper 90s and low 100s hit 24 North Florida counties Tuesday afternoon, prompting the heat alert blanketing parts of the state, National Weather Service officials in Miami said.

The area covered by the warning stretches from the Georgia border to Flagler Beach, north of Daytona, across the state through Ocala to Suwannee on the Gulf Coast, northwest to Panacea in the Big Bend area.

Central and South Florida were expected to be hot, but not as oppressive as North Florida, thanks to sea breezes.

Melbourne's high reached 94 degrees by late Tuesday, but the heat index made it feel like it was 102, Weather Service officials said. Melbourne's average high temperature for August is 89 degrees.

Even though the state's humidity is a little bit lower than usual, the higher-than-normal heat, combined with the humidity, increases the risk of heat-related illnesses, said Joe Myers, director of the state Division of Emergency Management.

The warnings were aimed at the elderly, people with health problems, young children and people who are working or playing outdoors.

To help beat the heat locally, more than a few residents headed for Del's Freez Ice Cream shop in Melbourne.

See HEAT, Next Page

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 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, 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.

Whom to call

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

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.

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 movement 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, 6A

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.

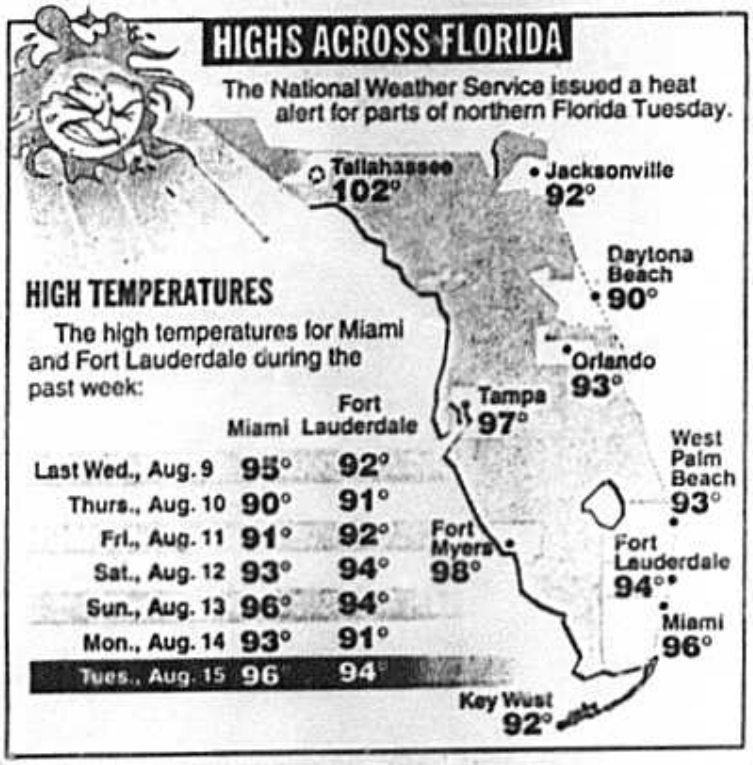
'On call' complaints

FPL received some complaints Monday and Tuesday from homeowners who have agreed to that "on call" program.

"The agreement I signed said they would cut our air conditioning at home for no more than 15 minutes per half hour," said attorney Lloyd Granet of Miami.

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 cutoffs 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 I 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."

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 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 legislators 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 power conservation

By Kathy Reakes
FLORIDA TODAY

As the state's hot spell ebbed slightly Wednesday, Florda 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 businesses 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 Rafaelle, 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 expectations 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 RAFAELLE, a physics professor at Florida Institute of Technology, works to squeeze more energy from the sun.

FPL plant spills radioactive water

MIAMI — The state's largest utility ordered an internal investigation after an employee error caused a radioactive spill in a containment building at its St. Lucie nuclear power plant.

Officials with Florida Power & Light Co. and federal regulators stressed that the 10,000 gallons of water spilled Friday at the FPL plant was only "mildly radioactive" and posed no danger. No employees were in the area when the spill occurred.

Demand staggers FP&L

Central Florida's largest power provider, Florida Power & Light Co., wrestled with energy demands spurred by the heat. FP&L serves 3.2 million customers statewide, including 400,000 in Brevard, Volusia and Seminole counties.

Commercial, industrial and government customers who get discounts in exchange for an agreement to allow their power to be cut off in emergencies had to honor the agreement for about three hours in the afternoon.

In Seminole County, for example, the Sheriff's Office headquarters, county courthouse and administration buildings were in the dark. A backup generator at the Sheriff's Office sustained essential dispatch operations.

FP&L also asked all customers to cut back on electricity usage to avoid rolling blackouts throughout the system.

FPL reassigns nuclear plant manager

☐ A series of incidents at the St. Lucie nuclear power plant led to Chris Burton's demotion to plant services manager.

ASSOCIATED PRESS

HUTCHINSON ISLAND — Florida Power & Light has demoted a top manager of its St. Lucie nuclear power plant after a series of incidents kept one of the reactors closed for almost a month.

Chris Burton, the former general manager at the plant, has been reassigned to plant services manager, FPL officials said Thursday. He had been second-in-command at the plant.

The change comes a month after a Ford Explorer was sucked into one of the plant's discharge pipes, forcing three teen-age passengers inside to swim through lukewarm wastewater to safety. The three had trespassed July 9 on their way to the beach.

The demotion also comes a week after an employee error caused 10,000 gallons of low-level radioactive water to spill in a containment building of the problem reactor, prompting an internal investigation.

FPL spokesman Ray Golden said Burton's reassignment was unrelated to the investigation. He declined to comment further, saying he was prevented from discussing personnel issues.

The spill and four other incidents have occurred in the one reactor in the past month. The reactor had been shut down in preparation for Hurricane Erin last month but has been unable to restart because of equipment failures and personnel errors.

Three attempts to restart it — including the one in which the radioactive water spilled — have failed.

Golden said the company is concerned about the problems at the plant, deemed to have one of the safest records in the industry.

FPL officials have scheduled an Aug. 29 meeting with officials at the Nuclear Regulatory Commission in Atlanta to discuss the series of mishaps.

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

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 HSPE of 6.8 or greater or AFUE if 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

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