

Burying the Wires on Jupiter Island

A History

Summary

The Town of Jupiter Island is the first, and presently the only town in Florida to execute a complete underground conversion of all its utility services. This project was conceived by the Jupiter Island Town Commission in the year 2000, and ten years later as the year 2009 comes to a close, it is now virtually complete. The attached "History" was compiled to document in some detail the evolution of the events leading up to and during its final construction. This executive summary provides an overview.

The value of an electric underground conversion was recognized in year 2000—it would dramatically improve the Town's reliability of electric service, which was considered very poor. Also, the aesthetics of its streetscapes would be greatly improved.

Initially, Florida Power and Light Company (FPL), our retail electric supplier, was expressly opposed to the idea, although State law clearly permitted us to pursue such a conversion if we would bear the expense. FPL gave numerous reasons to discourage it. Their position was that except for aesthetics overhead electric service is preferred, especially in coastal areas where flooding is possible. The conversion would be very expensive, it would be a challenge to obtain the easements, construction would be disruptive to the residents, and the result would be a less reliable system with longer restoration times following outages. We did not agree, and pursued the idea with them for some time; but without their support we did not have the wherewithal to go forward.

Perceptions changed dramatically after the hurricanes of 2004-05. These storms repeatedly ravaged south Florida, causing extensive damage to FPL's overhead distribution facilities. Power outages were quite long and restoration was very expensive, totaling about one billion dollars, and these costs were not automatically recoverable in their rates without specific approval by the state's Public Service Commission. FPL organized a program called "Storm Secure" to strengthen its distribution system over time and assure the public that these events would not recur—and apparently to enable recovery of the huge restoration

costs. Also, FPL reversed its long-standing opposition to underground conversion and became a proponent of this idea. They proposed a 25% cost sharing for communities willing to undertake it, and modified several of their other policy provisions to facilitate such an endeavor.

Meanwhile, since three of the 2004-05 hurricanes struck Jupiter Island, with lengthy power outages and restoration impeded by broken power poles and wires, our Town Commission had renewed enthusiasm to proceed with a conversion. FPL, at our request, estimated the cost at \$13.8 million, to which we needed to add at least \$2 million of other costs—surveying, landscaping, legal and staff work. A Jupiter Island Town referendum in March 2007 resulted in high resident approval to go forward and to spend up to \$15 million.

FPL's proposed cost sharing of 25% was not initially assured, but had to be approved by a skeptical Public Service Commission (PSC). In 2007 we did our part to convince the PSC, in a close vote. FPL divided the project into phases and we began designing the facilities, starting on the south end of Town.

Under state law, FPL owns our retail franchise and will continue to own all the facilities. The Town was to pay FPL a contribution in aid of construction (CIAC), a complicated calculation. It amounts to this-- FPL's estimate of the cost to build the underground facilities, less FPL's estimated cost of a new overhead distribution system, plus the cost to remove the old system, plus the remaining book value of the old system. Of this, the Town is responsible for 75%, and 25% is absorbed by FPL and later charged to the general ratepayer.

However, state law provides that the Town can hire its own FPL-approved contractors to build the new system, as long as it is built to FPL standards and is turned over to FPL to own, operate and maintain. We saw this as a great opportunity. By soliciting competitive bids and hiring our own contractors, we were able to build the new system for less than FPL's estimated cost, reduce our CIAC, and still preserve the full value of the 25% cost sharing based on FPL's higher estimate.

We also hired a consultant, Danny Brannon, to work hand-in-hand with FPL on the design. This assured a reasonable system design, the placing of equipment in resident-friendly locations and timely completion of the design phases, enabling a timely execution of the project.

Our Town Manager Gene Rauth directed the solicitation of competitive bids for each phase, and the execution of the construction, with Mr. Brannon's help. With

this excellent team effort, the complicated project was constructed on schedule in just over 2 years (2008-09), and substantially under budget. Cost savings were achieved in two interrelated ways-- the 25% cost sharing by FPL, and the employment of our own contractors through competitive bidding in a buyers' market. These two factors resulted in an all-in project cost under \$8.5 million, about half of what it would have been if constructed entirely by FPL under the earlier state rules.

Although it was not part of the Town's original plan, we included the final phase which is being completed now along Bridge Road—a new submarine cable under the Indian River and a short underground conversion westward to Gomez Avenue, assuring a solid northern feeder which had previously been a fragile link in the Town's power supply.

Preface:

Over the years, the Town of Jupiter Island has undertaken some major initiatives. The acquisition and integration of our water company, the construction of a new Town Hall, and the establishment of a first rate set of Land Development Regulations are all good examples. This story deals with the Town's long-term efforts to bury its utility services, which took ten years. Often during these processes, some of the players change. There is a tendency for the institutional memory to be lost. The intent of this historical summary is to prevent that loss and preserve the memory. In fact, pulling this history together required quite a bit of research. Here, then, is a chronology of the Town's efforts, from the year 2000 to 2009.

Unfortunately this discussion is replete with many acronyms, and for convenience they are listed and defined here in this Glossary.

Glossary of Acronyms

BCE
for a firm price)

Binding Cost Estimate (offer by FPL to build something

CIAC	Contribution In Aid of Construction (a payment to the utility)
Conduit	A pipe that an electrical cable can be pulled through
Feeder circuits	Two electrical lines supplying power to Jupiter Island
FPL	Florida Power & Light Co.
GAF	Government Adjustment Factor (25% cost sharing by the general ratepayer)
IRS	Internal Revenue Service
KEMA	An international consulting firm
MOT	Maintenance of Traffic (street traffic control during construction)
MUUC	Municipal Underground Utility Consortium
Phase A	County Line to 430 South Beach Road
Phase B	430 South Beach Road to the Fork
Phase C	The Fork to Allen Trail, along Gomez and South Beach Roads
Phase E	Allen Trail to the end of North Beach Road and Bridge Road to the river
Phase F	Bridge Road river crossing westward to Gomez Road
Primary cable	Cable on the high side of transformers (7,000/12,000 volts)
PSC	Public Service Commission
ROW	Right of Way –the road and borders on either side
Secondary cable	Cable on the low side of transformers (120/240 volts)

Year 2000:

The Jupiter Island Town Commission, then consisting of Joe Connolly (Mayor), Eckley (Buzz) Coxe (Vice Mayor), William G. (Bill) Brown, Jane Davis Doggett and Pat Duberg, expressed considerable interest in putting the electric utility lines underground, mainly because of frequent power outages. In addition, Jane Doggett expressed the desire to rid the Town of unsightly poles and wires, which also compromise the vegetation near the road: *"We love our trees."* Vice Mayor Buzz Coxe was put in charge. Buzz enlisted resident Charles Falcone, a former electric utility executive, as a pro bono consultant. Resident Jim Spurgeon was then the Town Manager, and had been for some time.

The Town made numerous inquiries of FPL, and each time the utility tried hard to discourage us. They said it would be too expensive (*\$17-18 million, including FPL overheads and tax gross-up, although they only specified a total estimated cost*); it would be less reliable; there could be flood damage to underground equipment on our barrier island; cable failures take longer to repair than overhead lines; the

construction would take too long (6 years), and there would be too much disruption of the residents' peace of mind; and we'd never get all the easements from residents that would be required. *(They were insisting on easements for all underground facilities—not permitting any use of the road right-of-way.)* FPL had a packaged presentation to explain the procedure to us and others, and it appeared to be designed mostly to discourage any underground conversion. The fact that nearly all new subdivisions were being constructed with underground services didn't reverse their "anti-underground conversion" attitude. But they said *"If you insist on doing it, we will."* *(State law required them to do it upon request.)* We suspected that their cost estimate was set high to discourage us from doing what they—quite clearly—didn't want us to do.

We perceived the cost problem to be as follows. If FPL builds it, we would have to pay the construction cost, plus FPL's (unspecified) overheads, plus a gross-up for federal income taxes. It was expected that IRS would treat our payment to FPL as income to them. *(However, as seen later, this is not true for a contribution from a Town. It would be true if the contribution came from a developer, who would be considered by IRS to be the customer. FPL was accustomed to working with developers to construct underground service in new subdivisions, but not with towns or conversions from prior overhead service.)* The total cost to us could perhaps be triple the construction cost, depending on how much the corporate overhead charges were. *[They never gave us a cost breakdown in the early stages—just an estimated total cost. But assuming that the construction cost is 1.00, and if the corporate overhead charge is 100%, and if the federal income tax rate is 35%, then the math is as follows: $(1.0) \times (2) / (1 - 0.35) = 3.08$.]*

Year 2001:

At the suggestion of Phil Gildan, the water company's outside counsel and a utility expert, and with approval of the Town Commission, Vice Mayor Buzz Coxe commissioned a Study. The Town hired a consultant, Fred Saffer and Associates from Orlando. It was perceived that the "cost problem" could be overcome if the Town could acquire FPL's facilities on Jupiter Island at a price attractive to FPL, then carry out underground conversion ourselves using tax-free bonds, and agree to buy all our power from FPL, lease the system back to FPL for their operation

and maintenance, etc. Gildan saw this as a possible “win-win” for us and FPL. The Study was completed in October 2001.

As did FPL, the Saffer Study represented that if we paid FPL to build it, we would have to gross up our payment to the utility for federal income taxes. The cost could be much lower if the Town could own the system and undertake the underground conversion itself.

Based on the Saffer Study, Coxe sent a detailed proposal to FPL in December, 2001. The FPL response was blunt—“*Our facilities are not for sale.*” But Coxe proceeded to arrange for a meeting with FPL’s top management to discuss it face to face. I knew FPL would never agree to sell their facilities, as these wires assured their monopoly, but this exercise would get their attention and let them know that we were serious. It did.

Year 2002:

On April 19, 2002, Buzz Coxe and Charles Falcone met with FPL’s Chairman Lewis Hay and then-SVP Armando Olivera (*later Olivera became president*). It was a cordial meeting, confirming our interest and also their position on underground conversion. Chairman Hay was rather unfamiliar with this, but Olivera explained it and affirmed the need for the tax gross-up if the Town paid FPL to carry out the conversion, although he said there might be ways to get around it. He said that no other whole town or even any large neighborhood had ever attempted underground conversion in FPL’s territory—only an occasional small project.

Later in a follow-up phone conversation with Falcone, Olivera confirmed that it would be OK for JI to construct the conduit (*the “pipe” that the cable resides in*) with our own contractors, and FPL would install all the rest. He also acknowledged that “*If we had a clean sheet of paper, I would agree that underground service is preferable on Jupiter Island.*” This was a major concession and at variance with the canned speech his staff had been touting. He still expressed skepticism about any conversion of existing overhead facilities to underground.

The Town Commission decided to move forward with an FPL design study for \$95,500. (*In utility terminology this was a binding cost estimate, or BCE, though Coxe did not use this term.*) Under state law, once the BCE was received by the Town, we would have 6 months to execute a contract and FPL would be obligated to build it for that price; and they could charge up to 10% more, if they could

show cost data to justify the increase. The initial BCE fee was non-refundable if the Town failed to enter a contract within 6 months.

In a subsequent meeting, some commissioners were hesitant to spend \$95,500 on a design study without first assessing the Town residents' views. There were concerns over the fact that FPL would own the facilities even though the Town would pay for them. Also, there was discussion of the possible need to strengthen part of the Olympia feeder (along Bridge Road, outside of Town), but reluctance by the commissioners to pay for it. So, the design study was postponed.

Some expressed the concern that undergrounding the mile-long stretch along the Blowing Rocks Preserve at residents' expense might be overdoing it; but it was pointed out that for reliability reasons affecting residents both north and south of Blowing Rocks, this is important.

On July 5, 2002, a letter was received from FPL (Mr. Juan Armas, Distribution Director) answering some of our questions about the number and causes of power outages on Jupiter Island. Only outages longer than 60 seconds were recorded. (*FPL does not record data on so-called momentaries, outages shorter than 60 seconds.*) Causes listed for longer outages were numerous-- storms, tree branches in the wires, lightning, deteriorated poles, failed transformers, insulator contamination, squirrels, etc. There was a huge number of events—321 interruptions in 3-1/2 years, or about 100 per year, excluding any momentaries. We perceived this to be "awful" performance compared to experiences elsewhere.

Year 2003:

Buzz Coxe conducted a survey of Town residents' opinions. It concluded that 10% favored underground conversion "now", 21% favored conversion but asked for further study first, 58% said "revisit the issue in a few years". Only 9% opposed undergrounding. So, it was a relatively positive response, despite the preference to postpone it. In early 2003, the Town Commission put the underground conversion idea on the "back burner".

Falcone was encouraged to stand for election to the Commission at that time. Buzz Coxe wanted to retire and do other things. After the election, Mayor Connolly asked Falcone to head up the "then dormant" underground conversion effort.

Frequent power outages persisted, and we began monitoring them using electronic devices set up by resident Chris Smith. He began compiling a data base. We were then collecting more complete information on our outages than FPL had. This let us tell FPL "how bad" their service was on Jupiter Island.

Year 2004:

FPL tried harder to please us, and improved our service in early 2004 by installing a new feeder circuit, the submarine cable just south of our Town line (*County Line*), which runs to a substation directly across US#1. Also, FPL stepped up its tree trimming activity in Town, although many residents opted to use their own landscape gardeners instead.

Finn Caspersen was considering a run for the Commission, but the next election was a year off. He became very interested in underground conversion. He prodded Falcone to get active again in promoting it, and offered to help. He arranged for several private flights to Tallahassee, and engaged a lobbyist (*formerly employed by him in his Beneficial Finance days*) to set up meetings with the state Public Service Commission (PSC) commissioners. We visited Tallahassee three times to lobby each of the five commissioners and the staff on our need for underground conversion, and especially the need for a revised state policy that would be more conducive to underground conversion. We thought that we were making progress at that time, because they all listened intently. But later we came to learn that the PSC staff never really became enthusiastic about encouraging underground conversion. Still, FPL was paying attention to our efforts.

In June 2004, Falcone sent a letter to FPL Chairman Hay, again indicating that high cost was our greatest obstacle to UG conversion, and proposing a possible solution-- let Jupiter Island build it, own it and lease it to FPL, locking in our service for a very long time. (*It was similar to the 2001 Saffer-Coxe proposal, but ducked the issue of selling the existing wires to us.*) One month later the response came from Ms. Geisha Williams, FPL's VP of Distribution: "*We're not interested in that arrangement.*"

Then the multiple hurricanes of October-November 2004 occurred (*Frances, Jeanne, Charlie and Ivan*)-- It was awful—four hurricanes smashed FPL facilities in south Florida, and two of them (*Frances and Jeanne*) clobbered Jupiter Island, which was "blacked out" for 5-7 days each time. Recovery was even slower in

some other nearby neighborhoods. FPL's distribution facilities were designed to withstand 60 mph winds, not hurricanes. The majority of FPL's wood poles were broken, or toppled and re-toppled, and FPL incurred \$900 million in restoration costs. Most of these costs were later added to all customers' electric bills in a surcharge, but under public pressure the PSC denied a portion of the surcharge, causing FPL's shareholders to absorb it.

Year 2005:

After the 2004 hurricanes, the Jupiter Island Town Commission revisited the underground conversion idea with enthusiasm. Many other towns also became interested, including Palm Beach.

There was a flurry of newspaper articles criticizing FPL, the long power outages, the high restoration costs and the attractiveness of underground electric facilities. Falcone wrote an article which was published on Feb 27, 2005 as an Op Ed piece in the Palm Beach Post. *"The State's present policy on underground utility conversion discourages any such initiatives. If a town were to carry out underground conversion, it would reduce storm restoration costs for all of FPL's customers. Conversion should be encouraged, and the policy needs to be improved."* Numerous other newspapers picked up the story, including the Miami Herald, right in the heart of FPL territory.

Late in 2004, Town Manager Jim Spurgeon announced plans to retire, after many years of service with the Town. A search for a new town manager was organized. Jim's last day on the job was January 24, 2005, and Richard Gestrich, formerly manager of a town in Pennsylvania, was appointed as Town Manager that same day.

In March 2005, at the request of the Florida legislature, the Public Service Commission (PSC) issued a report on the advisability of underground conversion. It was mostly a repeat of earlier studies and pointed out the very high cost of underground electric service. The PSC staff position on underground electric conversion continued to be largely negative. The PSC in Florida, as well as other states, had a negative view on underground conversion for many years. This was consistent with numerous studies over the years, all funded and controlled by the utilities. The commissions understood the political problems associated with setting underground service as the standard—everyone would want it, and that would be very expensive. The utilities saw overhead-to-underground conversion as

bad for their business, since it's a lot of work and expense without any expansion of their customer base.

Also in March 2005, Finn Caspersen was elected Commissioner, replacing Pat Duberg (*who chose to retire*), and Bill Brown was re-elected Commissioner.

On April 13, 2005, at a Public Service Commission hearing on whether to allow FPL to recover hurricane restoration costs in a rate surcharge, Finn Caspersen delivered testimony emphasizing the unattractive State policy on underground conversion and the value of conversion in reducing storm restoration costs. (*This testimony was prepared by Falcone, but a prior commitment precluded his attendance and Commissioner Caspersen delivered it.*)

On April 28, 2005, a workshop meeting was held with FPL in the Town's conference room, attended by two FPL vice presidents (Geisha Williams and Jeff Bartel), plus others from FPL, and upon learning about the meeting two representatives from the Florida PSC staff flew down. All commissioners were present, plus Town Manager Rich Gestrich, and representatives from the towns of Palm Beach and Sewall's Point, and several Town residents. (*This was an unusual event, because of the presence of these individuals at our office.*) The FPL VPs spoke extensively about the huge hurdles involved in an underground conversion of Jupiter Island, emphasizing the challenges in getting resident unanimity, getting the needed easements and the disruption involved in constructing the facilities. It was much the same story and tone that we heard before, but with more political emphasis, and we felt that they were still brushing us off. We held their feet to the fire, challenged them and expressed a determination to move forward.

In May 2005, FPL's Nick Blount, at our request, gave another PowerPoint presentation to the Jupiter Island Commission on FPL's detailed procedures and costs for underground conversion. Later that month, we formally asked FPL for a BCE (binding cost estimate) to convert all electric facilities on Jupiter Island to underground service. We paid them a fee of \$95,500.

On June 29, 2005, Falcone testified before the PSC in West Palm Beach at a public hearing on a proposed FPL rate increase to support their generation expansion. He pointed out the power of a monopoly, and the benefits of allowing alternatives to the monopoly model (*ie, competition*), and the onerous procedures for underground conversion imposed by this monopoly. (*Much like many other state PSCs, the Florida PSC showed little interest in power supply competition. That*

would reduce the importance of their roles. FPL's monopoly preserves the need for a regulator, and thus their jobs and their importance.)

In the summer of 2005, Falcone asked a former industry colleague (*Earl Goldhammer at American Electric Power, an expert on corporate taxes*) whether a contribution in aid of construction (CIAC) from our Town to FPL would indeed be construed by IRS to be "income" for FPL. Goldhammer explained that there had been a succession of IRS rulings on this, which have narrowed the cases where taxability would apply. "*Since the Town is not the FPL customer*", said Goldhammer, "*it would not be taxable. If the customer was paying the CIAC, it could be decided differently.*" This information was at variance with FPL's earlier position and also the assumption in the Saffer Study. Falcone informed FPL of this, and they said they were also coming to this same conclusion.

On September 29, 2005, Jupiter Island received FPL's design and binding cost estimate for conversion of the entire Town--\$ 8.2 million. To this, we knew that we would have to add at least another \$2 million of expenses-- for surveying, landscaping, legal, consultants, etc. The cost was perceived to be not so bad, but the design was deficient in that it placed the facilities all in easements on private property, in disregard for the impact on residents. There were transformers literally placed in driveways. This was not a design upon which the Town could act, but it gave a reasonable idea of the scope of the work—cable lengths, etc.

One of FPL's expressed criticisms of underground service in coastal areas was the possible flood damage of the switchgear, which could disable the system for a long period. Discussions with Jupiter Island resident Bob Rowden, a utility equipment supplier, indicated that a big improvement in reliability could be achieved by replacing FPL's standard switch with the Vista waterproof switch, a more expensive switch but physically smaller than the standard. The switch is designed to operate even if submerged in water. We informed FPL and asked them to consider it.

Then our area was hit by Hurricane Wilma on October 24th, and so was Palm Beach. Recovery was lengthy, and there was an enormous public outcry. The repetition of so many hurricanes in a short time, together with the emerging predictions from climate experts that we were entering a long period of higher hurricane frequency, caused great concern in south Florida. Also FPL's restoration costs mounted up further.

Restoration of electric service to the Town of Palm Beach after Wilma took two weeks. At a Palm Beach Town Council meeting, the Council chairman likened FPL

management to Sisyphus, the cunning King of Corinth in Greek Mythology, who was punished by the gods in Hades for his cruelty. They commanded Sisyphus to repeatedly roll a huge stone up a hill, only to have it roll down again as soon as he had brought it to the summit. The analogy was that FPL was repeatedly patching its overhead distribution system back together, hurricanes would wreck it again, then they would restore it, etc, etc. And the repair costs were enormous. FPL was seeking to recover these costs from rates. They heaped a great deal of criticism on FPL management, and the press picked it all up.

Year 2006:

Joe Connolly and Charles Falcone met with Jeff Bartel and Nick Blount of FPL on Jan 13, 2006, at their request, at the Golf House. Bartel, trying hard to please, gave us an early "heads up" on some news from FPL. No longer could FPL be aloof on this subject, and Bartel's tone had changed. He indicated that FPL hired KEMA (*a well-known international utility consulting firm*) to do a "hardening" study of FPL's distribution system, and FPL would soon be announcing a new program, "*Storm Secure*," which he said would be attractive to us. It would include an underground conversion feature with some concessions allowing us to use road right-of-way (ROW), and give the Town a voice on where to locate the various facilities. Also there will be some cost sharing by FPL (*in lieu of any reduction of FPL's corporate overhead charges*), which will then need PSC approval. (*Clearly this whole program was designed to be a concession to the public in the face of all the criticism for poor performance and high restoration costs. Bartel told us that our advocacy figured heavily into the underground conversion part of this policy decision. Later President Olivera also told us that.*) Also at this meeting, they said that FPL was currently testing the Vista waterproof switch, and in response to our earlier question, they confirmed that the County Line feeder just south of our Town line would indeed have the capacity to carry the entire Town of Jupiter Island in backup mode, once the South Beach Road section of overhead line was replaced with a new underground cable. (*The existing overhead line on South Beach Road was weak and could NOT support the entire Town.*)

On Jan 23, the Florida PSC conducted a widely attended workshop in Tallahassee on *Hurricane Preparedness*. The hurricanes and enormous restoration costs put a great deal of political pressure on FPL, and to a lesser extent on other Florida utilities. FPL had hired the KEMA firm to assess their need to "harden" the system,

how to do it, and to estimate the costs. Distribution poles could be spaced closer together, and/or stronger concrete poles could be added. The advantages of underground service were highlighted by the KEMA spokesman as “*the ultimate in distribution hardening*”. Falcone attended and testified on Jupiter Island’s desire to carry out a whole-town underground conversion.

On January 25th, we held the first meeting of the Jupiter Island Electric Underground Conversion Steering Committee (Mrs. Myron Wick; Messrs. Larry Flinn, Chris Smith, Bob Rowden, Chip Brennan, Tom Domencich, Barry Hall; and all the commissioners.)

On March 22, 2006 Joe Connolly was named Town Manager, replacing Rich Gestrich (*who had resigned in January*), and Anne Scott was appointed Commissioner to replace Connolly.

In early 2006, FPL announced *Storm Secure*, pledging to make a major effort and investment over 10 years to harden the distribution system all over its territory—stronger poles, etc. Also, for towns willing to pay for it, FPL would facilitate underground conversion with a 25% cost sharing, and permit use of road rights-of-ways (ROWs) for construction of underground facilities. These were huge concessions, but there were catches. Despite the new policy, FPL staff still opposed our use of the ROWs for locating facilities. (They were slow to adapt to the new directive from senior management.) Also, the 25% cost sharing was proposed to be collected from the general ratepayer, so this would require Public Service Commission (PSC) approval—and it was up to us to convince the PSC-- not an easy sell. The details and mechanics of the plan were yet to be worked out.

Also in 2006, the Town of Palm Beach formed the *Municipal Underground Utility Consortium*. (MUUC) and about 25 south Florida towns and cities participated. Palm Beach administered the organization, which hired R.S. Wright, Esq., a Tallahassee lawyer. We joined. MUUC hired an engineering consultant to carry out a detailed study to help justify the 25% cost sharing on the basis of reduced restoration costs following major storms. The 25% cost sharing feature became known as the Government Adjustment Factor (GAF). We negotiated the terms of administration of this credit with FPL. It was agreed that if a town were to carry out the conversion work itself (*which it had the right to do under long-standing state law*), the 25% GAF would be calculated based on FPL’s binding cost estimate (BCE), not the actual cost incurred by the town. (*This was ultimately beneficial to Jupiter Island, because the FPL’s cost estimates were invariably much higher than our actual costs paid to our own contractors after competitive bidding.*)

On April 26, Charles Falcone was interviewed by the Palm Beach Daily News and he discussed the implications of the new FPL policy, while also announcing Jupiter Island's plan to carry out a pilot project for underground conversion (*170 to 200 South Beach Road*). There was a great deal of interest in our project in the Town of Palm Beach, and elsewhere.

FPL finished testing a Vista switch. It's waterproof, and smaller (*very helpful*), but more expensive. They said it tested well and they liked it. We made it "our standard" on Jupiter Island. This largely overcame FPL's earlier criticism that underground distribution facilities were prone to flood damage in coastal areas.

Events leading to this point had largely discredited the old utility paradigm-- *that underground distribution conversion is impractical*. KEMA was touting the wisdom of underground distribution conversion, and FPL was not only accepting it but now promoting it with incentives! Also, FPL was satisfied that by using the Vista waterproof switch, an underground cable system in a coastal area was not likely to suffer from flood damage. Other Florida utilities present at the January 23rd Workshop were silent, and so was the PSC staff. Though it took years to do it, we had led the way to a new paradigm for electric distribution in south Florida!

In June we got the BCE from FPL for our Pilot Project. They credited the earlier \$95,500 fee. This plan was more fully designed by FPL, but we had been directly involved in the design. Chris Smith did a great deal of the planning and equipment locating, and Chris joined Falcone to meet with each resident in the Pilot area. We hired Danella Construction as our contractor to install the conduits, pads, hand holes, splice boxes, vaults and a Vista switch which we placed in a vault beneath the ground. Gene Rauth, then the Town's chief engineer, supervised the field work. We learned a great deal from this. Construction took place during the summer, finishing just before the beginning of season in November, 2006.

We then asked FPL for a "ballpark estimate" of the cost to underground the whole Town. State law requires them to provide this to us free of charge, though it is nonbinding. (*It did not include what we now call Phase F, which is the submarine cable under the Indian River and a short cable run on Bridge Road west of Town.*) On December 15th, FPL gave us the ballpark estimate of \$13.8 million (*without the 25% Government Adjustment Factor (GAF), which had not yet been approved by the PSC*). It included Vista switches rather than their standard switches. (*Vista switches added \$1.9 million to the ballpark estimate.*) They had already withdrawn their earlier BCE of \$8.2 million (*Our assumption was that FPL had gotten concerned that the original bid was too low. Also they preferred to deal with the*

Town project in multiple phases, designing and pricing a little at a time.) This new nonbinding estimate was “upsetting” to the Town Commission and the Steering Committee, because it was much higher than expected and we had no assurance at that time that the PSC would approve the 25% GAF.

Year 2007:

Falcone arranged another meeting with FPL’s top management. On January 16, 2007, Falcone and Connolly met with FPL President Armando Olivera and Chairman Lewis Hay at FPL headquarters in Juno Beach. We complained that the new ballpark estimate (*\$13.8 million*) was a lot higher than the earlier BCE (*\$8.2 million*). Olivera stated that we should have accepted their 2005 BCE when we had the chance. (*As it turns out, we eventually built it for less than that! But the 2005 design was unworkable anyway because of the unsuitable placement of facilities, all selected by FPL without our input.*) We raised several concerns. We asked for their continued support of the 25% GAF in the forthcoming PSC proceedings, and specifically asked for FPL’s support for the GAF even if we chose to do all the construction work ourselves. We also asked for faster response from FPL in the design of future phases. They supported these items (*although the promise of faster design response was never fully achieved*). We also asked for relief from their corporate overhead charges if we chose to do the construction ourselves, but they would not concede that. We expressed our intent to go forward with the project, subject to a planned voter referendum.

In February 2007 we hired Danny Brannon as a consultant, at the recommendation of Anne Scott and Chip Brennan. Danny began work as project manager, principally doing design review and also field supervision. Later Gene Rauth took over the field supervision.

A detailed written explanation of the electric utility underground conversion plan and all the facts was prepared, and after careful editing by Commissioner Anne Scott, was distributed to all Jupiter Island residents. On March 20, 2007 we held a referendum to decide whether to carry out the underground conversion and to borrow up to \$15 million (consistent with FPL’s ballpark estimate) for the project. The resident turnout was high and the vote was 93% in favor.

On April 24th, 2007, Falcone testified (together with other MUUC members) at the Tallahassee PSC hearing on *Storm Secure*. We were able to get the 25% GAF

approved by a narrow margin (*3-2 commission vote!*) But it was limited to large conversions of at least 200 homes or 3 pole-miles of distribution, and also limited to a window of time. (*The project had to be committed by October 2008, which was sufficient for Jupiter Island's purposes. Later the time window was extended, and they made provision for a 5% GAF for smaller projects. As of late 2009, no other town has yet qualified for the GAF at the 25% level. It appears that Jupiter Inlet Colony may undertake such a conversion next year if the GAF window is extended further for them.*)

FPL divided the Jupiter Island project geography into 5 phases (*later they agreed to reduce that to four, combining phases C and D*) rejecting our request for a BCE of the whole Town, and required that we proceed with only one phase at a time.

During 2007, apart from MUUC, the Town negotiated the Right-of Way (ROW) Agreement directly with FPL, but with much difficulty. The major sticking point was that FPL wanted to hold the Town liable for damage from lawsuits resulting from their power facilities being in the ROW (*such as car collisions, etc*). Research showed this liability to be significant. The company conceded when we threatened to bring the issue before the PSC. Final agreement between Jupiter Island and FPL on the ROW Agreement was achieved without direct MUUC participation, although we kept them informed. The document was precedent-setting and became Florida policy.

We asked FPL for a BCE of Phase A, the southern portion of Town up to 430 South Beach Road. It took most of 2007 to get the design and BCE from them, and no construction work took place in 2007, despite Danny Brannon's work doing most of the designing himself. Danny challenged FPL's proposal of five Vista switches (*expensive*) in Phase A, and they eventually settled with two switches. We solicited competitive bids, got excellent responses and hired Danella to do the construction, starting in early 2008.

Gene Rauth went about obtaining easements from residents in Phase A. There were a total of 26, far fewer than would have been needed without the ROW Agreement.

Initially Danny was the project manager reporting to Joe Connolly, with Gene Rauth informally reporting to Danny. (Later, Gene became the project manager and Danny continued as consultant.)

We began surveying the rest of Town, and Danny began design work on Phase B (430 South Beach Road to the Fork).

Gene Rauth went about getting easements for Phase B. There were 92 new easements and 56 title searches on existing easements.

On October 23, 2007, Falcone and Rauth met with Jeff Bartel (*senior VP*) and Nick Blount of FPL. We expressed our concerns over FPL's unfair overhead charges in the event we did the work ourselves, and the "zero credit" FPL had proposed for salvage of the overhead materials. Bartel was responsive and came back in a letter dated November 20, 2007 with overhead charges reduced by 12% in cases where we do the construction ourselves (*a significant savings for us*) and allowed the Town to keep the scrap copper wire to sell on our own (*worth over \$100,000*). He also reduced Maintenance of Traffic (MOT) charges substantially, although this is applicable only in cases where FPL carries out the construction, and thus not helpful due to our election to hire our own contractors.

Also during 2007, a Revenue Raising Advisory Committee was established to explore options for repaying the debt, over 20 years, that would be incurred in executing the underground conversion. The Committee consisted of Commissioner Caspersen as chairman, Barry Hall, Chris Smith, John Vaughan, Rick Frisbee, Bob Kaye, Tim Smith, and Stuart Scott. The Committee met three times, with much discussion and analysis. On August 7th, although not unanimous, a super-majority selected the ad valorem tax as the recommended method of cost recovery. Subsequently the Town Commission approved the use of this method.

Year 2008:

On March 18, 2008, Falcone testified (along with Attorney R.S.Wright for MUUC) at a PSC hearing in Tallahassee, arguing for more reasonable underground conversion rules. Importantly and thanks in part to FPL's support, we succeeded in getting assurance that the 25% GAF credit would apply even if we did all the work ourselves; but we were unsuccessful in convincing the PSC to drop all FPL overhead charges on the work we did ourselves.

We started Phase A (*South end*) construction in January, and finished in November 2008.

Gene Rauth issued an RFP for Phase B construction, with excellent responses. He amended the RFP to include installation of an 8,000 foot section of SMRU water pipe, from 410 to 290 South Beach Road. F&H Construction won over other

bidders in a very close contest. Danella Construction was a close second, and there were other serious bidders.

We started Phase B construction in September 2008. Gene Rauth directed the field work. Construction continued "in season", and residents were very tolerant of the inconvenient traffic patterns. Gene Rauth managed the contractor crews to minimize the intrusion.

Danny began design of Phase E, North Beach Road, and Phase C, from the Fork to Bridge Road (*Phase D had been merged into Phase C*).

On September 25th, we formally resigned from MUUC. This was to assure FPL that we wanted their full cooperation in our project, and in turn we would not contribute further to MUUC's challenge of their underground conversion policy before the Florida PSC. (*We had concluded that the PSC was unlikely to favor the towns over FPL on any contested issues before them.*) In a letter dated November 7, 2008, we appealed to FPL to complete the design of Phase C by February 2009, so that construction of that phase could be completed during the summer months of 2009.

Gene went about getting easements for the rest of Town. There were 45 new easements in Section C, and 99 title searches on existing easements. There were 8 new ones in Section E, and 16 title searches.

Altogether (including 6 new easements in Section F), Gene executed 353 new or researched easements, despite use of the road ROW wherever feasible.

Year 2009:

It's incredible how much construction work was accomplished in the summer of 2009! It seemed as if the previous work had all been "warm-up".

Importantly, FPL finalized the Phase C design and BCE in March, permitting competitive bidding in time to commence construction right after the season ended. F&H Construction was awarded a contract for Phase C.

As the Project Schedule shows, three phases of construction (B, C and E) were underway at the same time, all by F&H. Prior planning and design, plus the F&H learning curve made possible quick and efficient construction work. In addition to the electrical conversion, new water pipes were installed to replace very old sets of

pipes in Sections B, C and E, and completed before the beginning of the 2009-10 season.

- a. Phase C construction began in May, and Phase B was completed that month.
- b. Phase E construction began in March, and was completed in September.
- c. Danny began design of Phase F in mid-summer, to permit possible construction later in 2009 if approved.
- d. Phase C construction was complete in October, completing all work on the Island!

On May 5th, Barbara Carr was appointed Commissioner, replacing Jane Doggett who decided to retire.

The Town Commission had been considering the possible addition of Phase F, a submarine cable under the river at Bridge Road and a short stretch of cable to the west. This was not in the original plan, but we had learned from FPL discussions and from our own outage experience that the old submarine cable was a “weak link” in our power supply. However, FPL staff had been silent for a long time in answering our question about whether the standard policy could apply, since this is an area outside of our Town boundaries and the policy on administering the 25% GAF was unclear on that point.

On June 24, 2009, Chris Smith and Charles Falcone presented testimony at the PSC’s public hearing in West Palm Beach on FPL’s service quality and its proposed rate increase. We testified that the quality of FPL’s overhead service in our Town had been poor for years, and that the recent underground conversion of the south end of Jupiter Island had achieved a dramatic reduction in the frequency of outages. We also pointed out our concern that the northern feeder to our Town was particularly frail, and we were unsure what policy FPL would impose on its replacement. *(In a subtle way, this put pressure on FPL to come up with a reasonable proposal for our Phase F, since the GAF applicability was unclear. This paved the way for their offer of Phase F on the same basis, ie, with inclusion of the 25% GAF credit.)*

On August 4th the Town Commission, with FPL’s BCE in hand and encouraged by the project’s quick progress and very good cost results, decided to go forward with Phase F. Gene Rauth negotiated an extension of the Phase C construction contract with F&H to include Phase F.

For several months, Town Manager Joe Connolly had been suffering and declining in health from Amyotrophic Lateral Sclerosis (ALS). Gene Rauth had been named Deputy Town Manager and served informally as Acting Town Manager for a period. On August 5th, Joe Connolly died peacefully, Gene continued as Acting Town Manager, and in September was appointed Town Manager.

During 2009, MUUC continued to press FPL before the PSC on the "corporate overheads" issue and "other O&M costs" (*other than major storm restoration costs*). We had resigned from MUUC in 2008. MUUC filed a settlement with FPL on these issues, which will yield a benefit to us (*another 8% reduction of corporate overheads when we do the work ourselves, which adds to the 12% Jupiter Island had already negotiated, for a total of 20%*).

As the project winds to a conclusion, it's interesting to observe some statistics on the facilities we installed (*especially since you can hardly see any of them!*), as well as the ones we removed (Table 1). For example, while the Town is only about 8 miles long north to south, it may be a surprise to learn that we installed over 81 miles of primary electric cable!

Conclusion:

At an "all-in" cost less than \$8 ½ million, Jupiter Island has a brand new, first class underground electric utility distribution system, the Town's largest project to date. We're the only town ever to carry out such a conversion. The facilities are the property of FPL, which continues to provide our retail electric service. The other utilities-- cable TV, internet and telephone-- are also fully undergrounded. The funds for this project were borrowed from Bank of America at a fixed interest rate of 3.86% (average of 2 borrowings), which will be repaid over 20 years with ad valorem taxes starting in 2011-12.

The cost of this project to Jupiter Island is just about half the cost if the construction had been carried out solely by FPL under the old Florida policy. The difference is due to cost sharing (25% GAF) by FPL through the Storm Secure Program, and by the Town's choice to carry out nearly all of the construction work with its own contractors at competitive prices, managed extremely well by our staff, in what has

been a "buyers' market". Also, new water pipes were installed at the same time.

We presented progress reports on the project at each Town Commission meeting for several years, to assure that the commissioners and residents were fully informed. The Steering Committee also met regularly.

The principal benefit to the Town is improvement in power supply reliability, both on a daily basis and also in restoration after major storms. The frequency of outages due to equipment failures on the Island has already diminished substantially. While it's true that underground cable failures can take longer to repair, redundancy in the new cable system permits quick restoration of service by FPL crews after any such failures. That is, although repairs can take longer, service to customers continues during the repair, after initial switching.

We are still vulnerable for outages originating on the mainland, but both of our feeder circuits have been "hardened". Across the river on Bridge Road, we will have new underground facilities back to the intersection of Bridge and Gomez Roads, where there are three possible source circuits. And in the south, our cable is connected to an overhead circuit of only four spans in Palm Beach County, and then to a submarine cable leading to the FPL substation just west of US#1 at County Line. (Substations are very secure.) Either feeder circuit can carry the entire Jupiter Island electrical load. So, our mainland sources are about as secure as we could hope for. In the aftermath of a hurricane, restoration will still depend on the actions taken by FPL crews, but it should be much faster than our previous experience, and one-day restoration is a reasonable expectation.

C. A. Falcone, November, 2009