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WILLIAM H. CHANDLER
1920-1992

July 26, 2002

Blanca S. Bayo, Director
Division of the Commission Clerk
and Administrative Services
Florida Public Service Commission
Capital Circle Office Center
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850
(850) 413-6770
VIA FEDERAL EXPRESS

020829-EC

RE: In Re: Petition of Florida Keys Electric Cooperative for a Declaratory Statement Concerning the Urgent Need for an Electric Substation in North Key Largo Pursuant to Section 366.04, FLA. STAT.

Dear Ms. Bayo:

I am enclosing herewith an original and fifteen (15) copies of the Petition For Declaratory Statement, to be filed on behalf of Florida Keys Electric Cooperative, in connection with the above-referenced matter.

I am also enclosing a copy of this letter as an acknowledgement copy and would appreciate it if you would file stamp it and return it to me in the enclosed self-addressed/stamped envelope as an acknowledgement of the date the above document was filed. Please call me if you have any questions regarding this matter.

Very truly yours,

John H. Haswell

JHH/daj
Enclosures

cc: Tim Planer, CEO and General Manager
Greg Goebel, President of Board of Directors
Nicholas Wayne Mulick, Esquire
Mary Anne Helton, Esquire, Florida Public Service Commission

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

IN RE: Petition of Florida Keys Electric Cooperative for a Declaratory Statement Concerning the Urgent Need for an Electric Substation in North Key Largo Pursuant to Section 366.04, FLA. STAT.	Docket No.: 020829-EC Filed: July __, 2002

PETITION FOR DECLARATORY STATEMENT

FLORIDA KEYS ELECTRIC COOPERATIVE ("FKEC"), by and through its undersigned counsel, hereby petitions the Florida Public Service Commission ("Commission") pursuant to Section 120.565 of the Florida Statutes and respectfully requests the Commission's declaration that, based on the facts below, there is an urgent need for an electric substation in the Ocean Reef area of North Key Largo and that FKEC must build such a substation on a road bed that FKEC acquired from the Florida Department of Transportation located just North of and adjacent to, the old NIKE Missile Base on the East side of C-905 (the "Site"), the best available and suitable site, to ensure an adequate and reliable source of energy for the residents of Ocean Reef and to remedy an inadequacy in the energy grid. The site selected is the best site as determined by a study entitled "Key Largo Substation Needs Analysis", dated August 2,

2000, and which will have the least environmental impact and the best suitability for the electric facility needed. As grounds for the relief requested by this petition, FKEC ("Petitioner") respectfully shows:

1. Notices and communications with respect to this petition should be addressed to:

For Florida Keys Electric Cooperative:
John H. Haswell, Esquire
Chandler, Lang, Haswell & Cole, P.A.
P.O. Box 23879
Gainesville, FL 32602
352.376.5226
352.372.8858 -FAX

with a copy to:
Timothy E. Planer
CEO and General Manager
Florida Keys Electric Cooperative
91605 Overseas Highway
Tavernier, FL 33070
305.852.2431
305.852.4794 -FAX

BACKGROUND

2. FKEC is an electric cooperative serving much of the Florida Keys with headquarters at 91605 Overseas Highway in Tavernier, Florida. FKEC is the utility responsible for providing power to the Ocean Reef and Anglers Club on North Key Largo, and is the exclusive service provider pursuant to territorial agreements approved by the Commission with Florida Power & Light Company, and the City Electric System of the City of Key West. The electric service demand and the energy needs of

the Ocean Reef community are rapidly growing beyond the capacity of the existing facilities serving Ocean Reef. Ocean Reef's electric needs are currently served by a 12-mile long distribution line that has become critically close to overloading its capacity in recent peak periods. FKEC must begin construction immediately on a new substation located closer to the Ocean Reef area before the winter peak period of 2002-2003 to prevent the likelihood of catastrophic power failures.

STATUTES AND CASE INVOLVED

3. FKEC seeks the Commission's declaratory statement regarding FKEC's obligation to provide adequate and reliable electric service to its members in the North Key Largo area of Ocean Reef. The statutory provisions and cases that apply to this set of circumstances are:

a. §366.04(1), FLA. STAT., which provides that the jurisdiction of the Commission supersedes that of all other boards, agencies, political subdivisions, municipalities, towns, villages, and counties.

b. §366.04(2), FLA. STAT., which provides that the Commission has the power over electric utilities to require electric power reliability.

c. §366.04(5), FLA. STAT., which provides that the Commission has jurisdiction over the development of Florida's electrical grid to assure an adequate and reliable source of energy.

d. §366.04(6), FLA. STAT., granting the Commission jurisdiction over all electric

utilities to establish and enforce safety standards.

e. Sutton v. Department of Environmental Protection, 654 So. 2d 1047 (Fla. 5th DCA 1995), where the court determined that an administrative agency can issue a declaratory statement where there is a bona fide, actual, present and practical need for the declaration and where the declaration deals with a present controversy as to a state of facts.

FACTS

4. FKEC is the exclusive electric utility that provides power to the Ocean Reef and Anglers Club area of North Key Largo, in Monroe County, Florida. In 1990, FKEC's consulting engineering firm, Resource Management International (RMI), performed a long-range study to determine what improvements FKEC would need to make to its system in the coming years to provide adequate and reliable service. RMI determined that the 12-mile long distribution line serving Ocean Reef was insufficient to meet the area's growing needs and that a new substation would need to be built. The line losses from such a long distribution line exacerbated the already limited capacity of the line. At the time of the 1990 recommendation, the projected line load in the year 2000 was to be 10,876 kW. The load on the Ocean Reef line reached 10,970 kW by 1995 and reached an all time high of 17,992 kW in December 2000. Each of RMI's reports since 1990 have urged the need to construct a new

substation closer to Ocean Reef to serve the Ocean Reef area. FKEC is now concerned that a very hot or very cold weather condition during peak demand periods will likely result in black out conditions and the inability to restore service for significant periods of time.

5. In accordance with RMI's recommendations, FKEC began plans to construct a substation on an FKEC-owned 3.1 acre site in the vicinity of the Ocean Reef area. A poor environmental impact review from the Rural Electrification Administration and the site's closer but still significant distance from the growing Ocean Reef area made it an undesirable and inefficient location for the substation. FKEC then sought to swap the 3.1-acre site for a small part of the former NIKE Missile Base that was 3 miles closer to Ocean Reef. However, the swap was rejected by the State since the Missile Base property was to be used for conservation purposes only. Another swap was attempted with the Florida Department of Transportation (DOT) for an old right-of-way at the "four way stop" area, nearby the missile base. Federal, state, and local agencies rejected this plan in 1994. Finally, in 1998 FKEC negotiated a swap with the DOT, trading the 3.1 acre site for a smaller section of an abandoned road bed ¾ mile south of the four way stop and adjacent to the old missile base (the "Site").

6. Although the Site is located in a designated wildlife hammock, FKEC has pledged to minimize environmental impacts of an electrical substation by creating wildlife corridors around the Site and by removing debris and non-native plants from the Site. Additionally, FKEC designed the substation to have a minimal environmental footprint of only 100 feet by 215 feet of fenced area and by locating the entire substation on the old road bed of the DOT. This is the only remaining site that would meet the requirements of the substation, that is not owned by the state or federal governments, where construction has not been prohibited, and is the best of 12 considered locations.

7. In 1998, an application for a minor conditional use permit was filed with Monroe County to build an unmanned electrical substation on the Site. The application was opposed by Michael Chenoweth, President of the Florida Izaak Walton League (FIWL), alleging that the Site is environmentally inappropriate for this use. This site was approved by the Monroe County Planning Commission in July of 2001. However, construction has not begun because two suits have been filed by Mr. Chenoweth to block the issuance of the permit. One of these suits was filed with an administrative judge by Michael Chenoweth on

environmental grounds. The other suit concerns an alleged conflict of interest by one of the Planning Commission's members.

8. Detailed statements of the facts of this case are attached as affidavits of Timothy E. Planer and John M. Burch, which are incorporated herein by reference.

DISCUSSION

9. The distribution line serving the Ocean Reef area is dangerously close to reaching its maximum capacity and the growth in electric demand in the area strongly suggests that this limit will be reached in the near future. An electric substation located closer to the Ocean Reef area will solve this problem. In order to assure an adequate and reliable source of energy to Ocean Reef's residents, a substation must be built before December 31, 2002 on the Site.

10. Despite the danger of blackouts and the lack of other suitable locations, the Izaak Walton League has blocked the construction of the new substation by appealing the July 2001 decision of Monroe County's Planning Commission which authorized the project. The delay in construction caused by the FIWL creates great uncertainty as to whether FKEC can continue to provide the adequate and reliable power referred to in FLA. STAT. §§366.04(2)(c) and

366.04(5). Furthermore, the appeal prevents FKEC from acting to insure the safety of its facilities. Therefore, it is essential that the Commission take the steps to quickly resolve this uncertainty as described in FLA. STAT. §120.565.

11. Chapter 366 of the Florida Statutes grants the Commission the jurisdiction and power to require an electric utility to install facilities necessary to remedy any inadequacy in the electric grid and to remedy any safety issues. FLA. STAT. §§366.04(2) & (5) and 366.04(6). Additionally, FLA. STAT. §366.04(1), provides that the Commission has the exclusive jurisdiction over the issues in this case and that its power is superior to the orders of "all other boards, agencies, political subdivisions, municipalities, towns, villages, or counties . . .". The Commission can resolve the uncertainty surrounding this case by issuing a declaratory statement that FKEC shall promptly construct an electrical substation on the Site prior to December 31, 2002, to assure the adequate and reliable availability of electricity, and to remedy an inadequacy in Florida's energy grid. In Sutton v. Department of Environmental Protection, 654 So. 2d 1047 (Fla. 5th DCA 1995), the court ruled that administrative agencies can issue a declaratory statement where there is a

bona fide, actual, present and practical need for the declaration and where the declaration deals with a present controversy as to a state of facts.

12. Resolution of this matter by the issuance of the declaratory statement below will ensure the continued availability of adequate and reliable power to the Ocean Reef area, will allow FKEC to cure an inadequacy in the energy grid, and resolve serious safety issues.

DECLARATORY STATEMENT REQUESTED

13. Based on the facts set forth in this petition and the attached affidavits, Florida Keys Electric Cooperative Association, Inc., respectfully requests the Commission's declaration that:

> Florida Keys Electric Cooperative Association, Inc., the exclusive electric utility supplier for the North Key Largo area, shall promptly construct a new electric substation at the Site, no later than December 31, 2002, to prevent power failures, to ensure adequate and reliable electric service to the residents of the Ocean Reef community in the North Key Largo area, to remedy an inadequacy in the energy grid, and to resolve safety concerns.

CONCLUSION

14. A speedy clarification of the uncertainty regarding FKEC's obligation to build the substation at the Site will end the certain danger of catastrophic facility failures caused by the inadequacy of Ocean Reef's current

electric distribution feeder. An order by the Commission setting forth the declaration requested herein will allow the Petitioner to construct the substation in time for this coming winter's demand in usage and to prevent blackouts. This order will be consistent with the Commission's statutory duties to ensure adequate and reliable electric service, to require utilities to remedy inadequacies in Florida's electrical grid, and to provide for safe electrical facilities. Pursuant to FLA. STAT. §§ 366.04(2), (5), & (6), FKEC must build the electric substation on the Site for the following reasons:

- the Ocean Reef area urgently needs a new substation to serve its growing electrical demands;
- without a new substation, the Ocean Reef area will likely experience power failures in future peak use periods due to the failure of the current 12 mile long electric distribution line;
- environmental concerns prompting Mr. Chenoweth's appeal have already been addressed in FKEC's plans for the proposed substation;
- the Site is the best available and suitable location for an electrical substation serving the Ocean Reef area;

- it is the Commission's duty to require utilities to remedy inadequacies in the electric grid, and to ensure the safe, adequate and reliable availability of electrical service;
- orders by the Commission are exclusive and superior to those of any other state or local agency.

The legislative intent of FLA. STAT. §366.04 concerning the Public Service Commission was to ensure the availability of adequate and reliable power to all of Florida's residents. The Commission should grant the Petitioner's request and issue the declaration sought herein. It is urgently needed.

WHEREFORE, Florida Keys Electric Cooperative requests that the Commission declare that Florida Keys Electric Cooperative must construct an electric substation on the Site to ensure the availability of adequate and reliable service to the residents of Ocean Reef in North Key Largo and to remedy an inadequacy in the electrical grid, or grant similar other relief as is just and reasonably consistent with this petition.

Respectfully submitted this 22 day of July, 2002.

Timothy E. Planer
CEO and General Manager
Florida Keys Electric Cooperative Association
91605 Overseas Highway
Tavernier, FL 33070
305.852.2431
305.852.4794 -FAX

John H. Haswell, Esquire
Florida Bar No.: 162536
Chandler, Lang & Haswell, P.A.
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352.376.5226
352.372.8858 -FAX
Attorney for Florida Keys Electric Cooperative Association

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AFFIDAVIT OF TIMOTHY E. PLANER

STATE OF FLORIDA
COUNTY OF MONROE

BEFORE ME, the undersigned authority, personally appeared the undersigned, **TIMOTHY E. PLANER**, hereinafter referred to as "Affiant", and who, being by me first duly sworn, on oath or affirmation, says:

1. That Affiant is the Chief Executive Officer and General Manager of Florida Keys Electric Cooperative, Inc. (FKEC), an electrical utility serving more than 30,000 electric consumers in the Upper and Middle Florida Keys and that Affiant has personal knowledge of the information provided in this document.

2. The attached 19-page document entitled "Development Summary of North Key Largo Substation" dated May 10, 2002, and consisting of:

A. a 2-page summary by Timothy Planer starting on page 1;
B. a 3-page "Sequence of Events" of the last 12 years starting on page 3;
C. a 2-page memo by Timothy Planer entitled "Urgent Need for an Electric Substation in North Key Largo", dated June 10, 2002 and starting on page 6;
D. a 2-page memo by John M. Burch entitled "Loss of Jewfish "E" Feeder to Serve North Key Largo Customers", dated June 10, 2002 and starting on page 8;
E. a graph entitled "Forecast of "E" Feeder Peak Demand", on page 10; and
F. excerpts from FKEC Long-Range Plans dated May 1990, June 1990, May 1993, and November 1995, starting on page 11;

is true and correct to the best of my knowledge and belief.

DATED this 22 day of July, 2002.

TIMOTHY E. PLANER

STATE OF FLORIDA
COUNTY OF MONROE

I HEREBY CERTIFY that the foregoing instrument was sworn to, subscribed and acknowledged before me this day, by **TIMOTHY E. PLANER**, who is personally known to me or has produced _____ as identification and who did (did not) take an oath.

WITNESS my hand and official seal in the county and state last aforesaid this 23 day of July, 2002.

Susan P. Kohlhofer
Notary Public
Print Name: SUSAN P. KOHLHOFER

Commission Number: CC 918353
Date Commission Expires: March 14, 2004

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Development Summary of North Key Largo Substation

By
Timothy E. Planer CEO/GM
May 10,2002

In 1982 the Florida Keys Electric Cooperative Association, Inc., (FKEC) purchased 3.1 acres of land for a future substation site. The need for a substation was due to new load growth from a planned development at Port Bougainvillea. The substation site selection would serve the new load and the existing load at the Ocean Reef Club on North Key Largo. When the new load development failed at Port Bougainvillea, the property was purchased by the state for conservation. The immediate need to construct a substation declined and did not resurface until 1990. Resource Management International (RMI) consulting engineering firm, performed a long-range plan study for FKEC to determine electrical system improvements needed over the next twenty years. RMI determined that a substation was needed to serve the Ocean Reef and Anglers Club area due to abnormal voltage drop on the existing supply line. FKEC began pursuing permits to construct a substation on the 3.1 acre site. Financing was requested through the Rural Electrification Administration (REA). REA required the borrower to perform an environmental review of the proposed site, resulting in an unfavorable recommendation from REA due to endangered species found on the site. Electrically this site was no longer the most desirable location as load continued to grow in Ocean Reef and Anglers Club area, and growth along road 905 was no longer possible

.

FKEC proposes to swap 3.1 acres, for a small portion of the Missile base property located approximately 3 miles farther North toward the Ocean Reef community. The Florida Division of State Lands rejected the proposed land swap because the missile base land was acquired with "CARL" funds, and could only be used for conservation uses.
The second land swap effort was to trade a section of the DOT ROW at the four way stop for FKEC's 3.1 acres, (all other lands that would meet acceptable site requirements are owned by the State and Federal governments). In a meeting to locate alternate substation sites in 1994, representatives from US Fish and Wildlife, Monroe County Growth Management, Florida Game and Fresh Water Fish Commission, the Department of Environmental Protection, the State Division of Parks and Recreation and FKEC met at the four way stop area. The agencies rejected the four-way stop site due to endangered plant species found on the site, and suggested that FKEC move farther South or try to find a site on Federal land.

FKEC negotiated a land swap for the 3.1 acres on August 10, 1998, with the Florida Department of Transportation. A section of abandoned road ROW approximately ¾ mile south of the four way stop, and adjacent to the missile base became the new site.

On September 8,1998, FKEC files application for minor conditional use permit with Monroe County to construct an unmanned electrical substation on the acquired abandoned DOT ROW.

Opposition to the filing for minor conditional use permit immediately surfaced from the Florida Division of the IZAAK Walton League, and Michael F. Chenoweth, with support from the "Friends of the Everglades", The Florida Keys Audubon Society" and other groups, claiming the site was environmentally inappropriate, and that other sites were more suitable.

At the July 23, 2001 Monroe County Planning Commission hearing, Monroe County approved the minor conditional use permit for FKEC to construct the substation. This decision is presently under appeal and two suites have been filed to block issuing a construction permit.

The critical need for a substation was established in the 1990 Long Range Work Plan, performed by RMI. The following work plans continue carrying forward the substation project. See excerpts from the 1991-1992; 1994-1995; 1996-1997 work-plans. In December 2000 the Ocean Reef line hit an all time peak of 17,992 KW. Recent failures of voltage regulator switches and conductor splices indicate the effects of reaching maximum loading on this line. Experiencing peak conditions is mainly weather dependent, and subject to occur during the normal peak months of the year. FKEC is concerned that any abnormal temperature extreme during a peak demand period is likely to now result in black out conditions and the inability to restore service during peak time. This past winter FKEC replaced the existing 400 amp voltage regulators on this line with new 576 amp regulators to handle the high current demands. This recent upgrade is only a short-term solution to a near critical situation. FKEC needs to begin construction of the North Key Largo Substation immediately to meet the winter loads of 2002.

North Key Largo Substation

Sequence of Events last 12 years

- Long Range Plan, May 1990, recommended construction of substation.
- July 30, 1992 letter to Pete Mallison, DNR, requesting to purchase or lease a portion of the missile base for a substation.
- November 20, 1992 DNR letter concluding that DNR could not give the proposal a favorable recommendation because the land was acquired through the CARL program.
- August 4, 1993, Letter from Monroe County regarding steps to secure right-of-way on CR 905.
- August 19, 1993, letter from Ken Smith, Attorney, to all agencies requesting input on FKEC's purchase of the DOT ROW at the four way stop, (Intersection of CR 905 and CR 905A).
- October 18, 1993 follow up letter to Mark Yano, US Fish and Wildlife Service.
- November 19, 1993, letter from David Ferrell, Field Supervisor US Fish and Wildlife Service stating that the proposed substation will not have any direct impacts to federally threatened and endangered species.
- Received letters from other agencies in response to Ken Smith's letters, there were objections from the Division of Recreation and Parks.
- FKEC Construction Work Plan, 1994-1995 substation construction included in work plan.
- January 31, 1994, FKEC Board Meeting, no objection for the General Manager to use a Tallahassee expediter.
- April 14, 1994, letter to the Governor asking for help in purchasing some of the Nike Missile site or the four way stop ROW.
- May 31, 1994, FKEC Board of Directors authorized General Manager to negotiate with Albert Gregory, Planning Manager, Office of Park Planning, DEP.
- June 3, 1994 letter from the Governor, Albert Gregory will meet with FKEC.
- June 13, 1994, letter to U.S. Fish and Wildlife, Florida Game and Fresh Water Fish Commission, and Monroe County requesting meeting with FKEC and Albert Gregory at the four way stop on 905 to discuss possible locations for substation site. Results, FKEC proposed sites unacceptable, move to another site, try Federal land.
- September 28, 1994, letter from Bob Herman, Director of Growth Management, Monroe County. Most appropriate location in DOT ROW.
- January 9, 1995, requested a permit from DOT to place substation on ROW at the North end of Nike Missile Base.
- February 10, 1995, letter from DOT denying permit.
- April 14, 1995, letter to Governor, requesting additional help from him.
- July 7,1995 letter to Randy Miller, accepting proposal as approved by the FKEC Board of Directors, to pursue purchase of DOT surplus land.
- August 31, 1995, letter to Albert Gregory, Chief, Office of Park Planning, outlining FKEC's offer to swap 3.1 acres of good Hammock for ROW at Missile site.
- September 25, 1995,letter from Albert Gregory , support of proposal to swap 3.1 acres for ROW.

- Construction Work Plan, 1996-1997 recommended substation be carried over from prior work plan.
- January 29, 1996, FKEC Board approved the revised proposal of GEC Alstom to provide specifications for two turnkey substations, Grassy Key and Ocean Reef (to be renamed later to Crawl Key and North Key Largo).
- July 22, 1996, Greg Goebel (chairman of the Engineering and Operations Committee) reported to the FKEC Board of Directors, "if a definite outcome regarding the acquisition of a site for the North Key Largo substation is not reached within 60 days that negotiations for a site in Ocean Reef would begin".
- December 12, 1996, letter to Nick Mulick requesting handling of the closing on the property swap with DOT.
- December 17, 1997, Nick Mulick and Charles Russell had a meeting in Tallahassee with Charles Pattison, Director, and Michael D. McDaniel, Growth Management Administrator, of the DCA. No apparent roadblocks.
- February 9, 1998, Nick Mulick and Charles Russell met with Bob Herman and Tim McGarry in Marathon to get information on what would be required for a permit. Tim will contact Nick Mulick after doing research.
- May 8, 1998, Power transformer for NKL substation arrives.
- September 9, 1998, application for minor conditional use permit to Monroe County Planning department. Purpose to construct an unmanned electrical substation.
- April 26, 1999, letter from Robert Smith, FKEC retained Biologist, requesting technical assistance coordination with the US Fish and Wildlife Service for the proposed substation project.
- May 5, 1999, response letter from US Fish and Wildlife Service, indicating the need for an incidental take permit, and willingness to assist.
- April17, 2000, letter from FKEC Biologist Deborah A. Shaw, Ph.D. to Robert Smith regarding Stock Island Tree Snail survey.
- January 23, 2001, memo on cost estimate to install underground transmission lines to Ocean Reef site.
- April 11,2001, memorandum from Development Review Committee, staff recommends approval with conditions.
- May 23,2001, notice of public hearing for minor conditional use approval to construct a 1,924 sq. Ft. unmanned electrical substation.
- July23, 2001, Planning Commission Hearing on minor conditional use permit to construct substation approved.
- Appeal of Planning Commission decision filed by Upper Keys Citizen Association and Florida Keys Chapter Izaak Walton League of America.
- Suite filed regarding conflict of interest of Commission member regarding Planning Commission vote.
- Suite filed to overturn July 23, 2001, Planning Commission decision to approve minor conditional use permit.
- January 24, 2002, filed for permit with FDOT to construct a temporary substation on 905 ROW, 1.7 miles south of proposed site. DOT advised that approval from Monroe County to remove native trees planted on the site would be required.
- April 24, 2002 met with Monroe County, Director of Island Planning Team, Ed McGee,

regarding DOT's request of Monroe County to approve FKEC's removal of native plants in DOT ROW, under the 1/24/02 DOT permit application. County's position, is that to construct a temporary substation on DOT ROW would be within Monroe County jurisdiction, requiring a county permit. FKEC is reviewing jurisdiction determination of the County position.

URGENT NEED FOR AN ELECTRIC SUBSTATION
IN NORTH KEY LARGO
BY
TIMOTHY E. PLANER
JUNE 10, 2002

Florida Keys Electric Cooperative Association, Inc., (FKEC) serving 30,000 plus electric consumers in the Upper and middle Florida Keys is prevented from constructing a badly needed electrical substation in North Key Largo. Without your assistance and intervention into this matter, we project that we will be unable to reliably service the load.

Since 1990 consulting engineers have identified the need for a new electric substation to be constructed in the North Key Largo area to relieve the demands on the over taxed facilities ("E" Feeder) serving the area. Normally when the engineers have targeted an area for upgrade, a project is developed and built within 2-4 years. The 1991–1992 construction work plan included the addition of a new substation in the North Key Largo area.

Starting in 1991, FKEC began the difficult process of site selection, this included working with various representatives from numerous organizations both public and private. Numerous potential sites were evaluated for both electrical and environmental appropriateness. Ultimately, the site on North Key Largo was selected as the most suitable location. After nearly ten years of delays and continued intervention, approval from the Monroe County Planning Commission, was finally obtained for the substation construction. As expected, the Planning Commission's decision has been appealed by those opposing the selected site and continuing to delay the project.

The North Key Largo area, not governed by the Monroe County "Rate of Growth Ordinance" has experienced annual load growth in the area of 20% per year. After twelve years of continued delays, conditions are now at the crisis level.

Typically, peak demands for electricity are created around extreme weather conditions such as those experienced over Christmas 1989. In an effort to forecast the highest possible peak load that could occur on the "E" Feeder under similar conditions, FKEC has completed a Regression Analysis forecast of demand. Based upon the historical relationship between Heating Degree Days (HDD) and Peak Demand, the forecast shows that the load on the "E" Feeder could reach as high as 29 megawatts (See attached graph.) With normal capacity of 15 megawatts and maximum capacity of 20 megawatts for that section of line, failure is eminent.

Any reserve capacity to withstand abrupt peak conditions, has long since been used up, and we find ourselves facing the potential of black outs should the winter weather resume even in a normal pattern. (See the attached memo, from John M. Burch, P.E., and Director of Engineering FKEC.)

MEMORANDUM

DATE: **June 10, 2002**

TO: **Timothy E. Planer, Chief Executive Officer and General Manager**

FROM: **John M. Burch, P.E., Director of Engineering**

RE: **Loss of "E" Feeder to Serve North Key Largo Customers**

I believe it is of the upmost urgency to discuss and correct a serious reliability flaw on the FKEC electrical power system.

The distribution "E" feeder serving electrical power to the North Key Largo area and Ocean Reef Community will most likely fail to deliver power next winter. This failure means that FKEC will not be able to provide electrical service to three (3) golf courses, 600+ family homes and various commercial and recreational facilities located in the Ocean Reef area.

The time table for the loss of this feeder depends on load current and/or seasonal weather conditions. The electrical load of 17.992 megawatts experienced on this feeder during a moderate cold spell in December of 2000 equals approximately 90 percent of the maximum thermal rating of the conductors. A 250 percent increase in the demand for electricity has occurred on this feeder over the past twelve years. The electrical system facilities cannot provide electrical service should a similar cold spell occur in 2002.

The extended outage created by this occurence will last the duration of the cold spell since this 12 mile long radial feeder has only one source with no backup or loop feed capabilities.

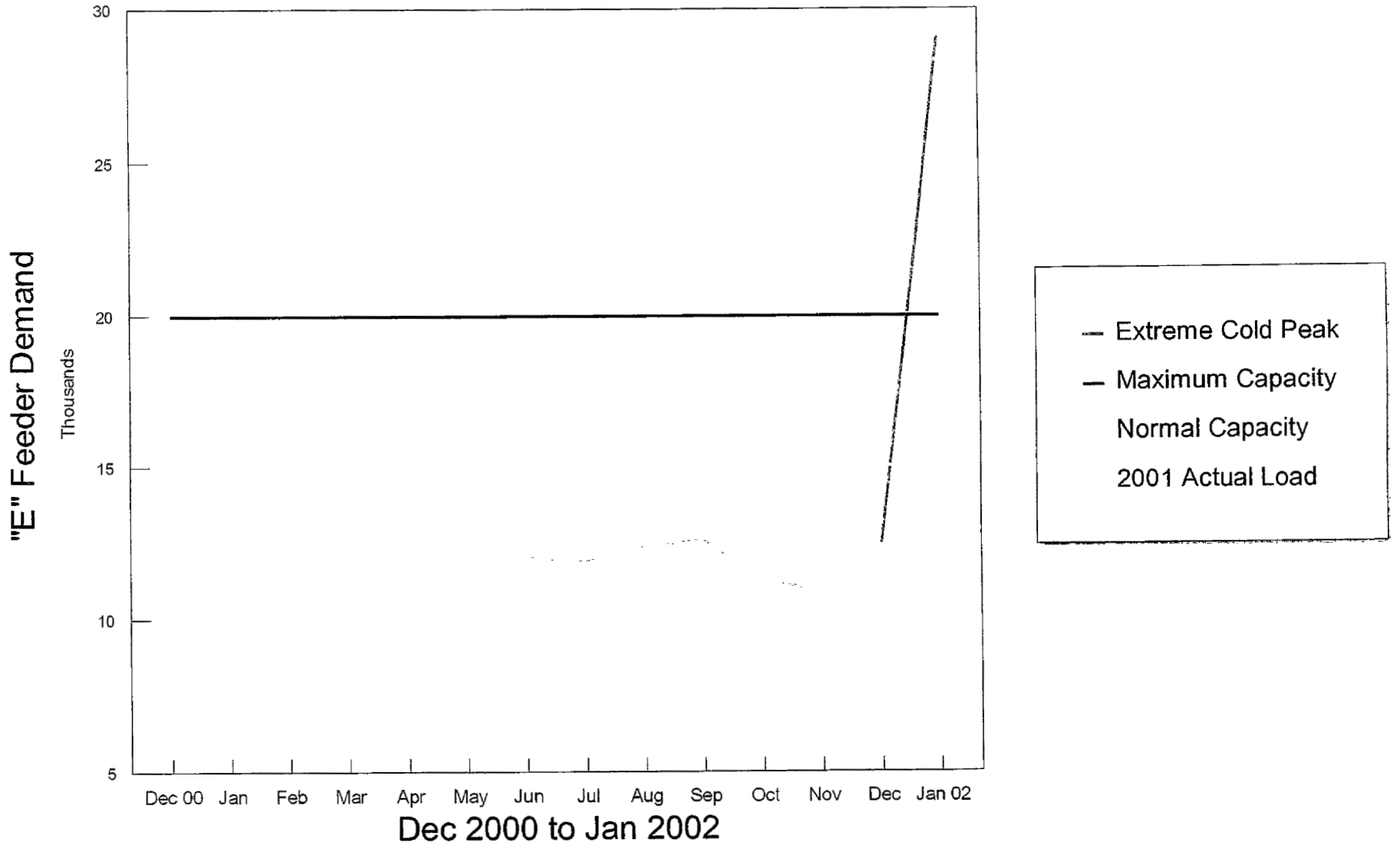
Since recent data has shown that moderate winter demand for electricity on this feeder approaches 18 megawatts, then under normal weather conditions, the North Key Largo community electrical load will exceed the distribution feeders capacity to deliver electricity during the peak winter months December through January. This loss of the electrical system due to thermal overload should occur in the year 2003 based on historical load growth. If a moderate to extreme cold front occurs the loss of this feeder will be sooner.

It should be noted that the existing voltage level of this feeder is substandard and does not meet national standards. This is due to transporting the high current over a long distance.

It has been established through numerous engineering studies that an electrical substation must be built to support this load. A segment of the substation design work is site specific and once the substation site is established it will take approximately one (1) to one and one half (1 ½) years to complete construction and energization of the permanent substation.

Time really is of the essence and it may already be to late. Monroe County government does not understand the urgency of this matter. This information should be made public to all entities. If construction of a permanent or emergency substation does not begin immediately, the consequences will be very disturbing.

Forcast of "E" Feeder Peak Demand



Florida Keys Electric Cooperative Association, Inc.
Florida - 24 - Monroe

Long-Range Plan

May 1990

RMI

Resource Management
International, Inc.

2324 South Congress Avenue, Suite 1-A
West Palm Beach, Florida 33406
(407) 968-4800

Marathon Substation

Marathon feeder B required capacitors in Interim #1 to boost voltage and feeder N was reconductored. In Interim #2, load was transferred from feeder B to the Grassy Key West feeder. In the long-range, the new Crawl Key substation was added with a 26,800 kVA transformer to relieve overloading of the Marathon station.

The alternatives to the Crawl Key substation are adding a third transformer at Marathon and adding a second transformer at Grassy Key substation. Adding a third transformer at Marathon would require buying additional land and making substantial changes at the Marathon site. Based on observations of the Marathon site, adding transformer capacity at Marathon is estimated to cost as much as developing a new substation. Line losses in this alternative are also higher in comparison to the Crawl Key alternative. A second transformer at Grassy Key results in higher line losses than the Crawl Key alternative. By installing the Crawl Key substation, loading is reduced on two Marathon feeders (B and M) and on one Grassy Key feeder. To serve the Marathon feeder M load with the Grassy Key alternative would also require construction of five miles of three-phase 24.9-kV distribution line to connect to the M feeder. Because the load is expected to be concentrated in the Crawl Key area and an additional substation enhances the ability to backup feeders at adjacent substations, the Crawl Key substation is recommended.

Ocean Reef Substation

The Ocean Reef Substation was constructed in Interim #1 to alleviate voltage problems on the Jewfish E feeder. The Jewfish E feeder is approximately 13 miles long and serves the Ocean Reef Club area. The Ocean Reef Club represents 99 percent of the load on the feeder. Other alternatives were considered to alleviate the low voltage on the E feeder such as building a second circuit. However, in the long-range, two circuits are not adequate to serve the load and meet the planning criteria.

Florida Keys Electric Cooperative Association, Inc.
Florida - 24 - Monroe

1991-1992 Construction Work Plan

June 1990

RMI
Resource Management International, Inc.

2324 South Congress Avenue, Suite 1-A
West Palm Beach, Florida 33406
(407) 968-4800

referred to previously, summarizes the substation transformation capacity and shows historical and projected substation and feeder loading for the 1987 through 1992 summer peaks. Table II-3 lists the feeder loading at the substation in amperes per phase and in kW and kVAr. This information was used as input to DPAS. These loads were then increased to 1992 based on the forecasted feeder peaks in Table II-2. Table II-4 lists the existing spot loads modeled in DPAS. Table II-5 summarizes the results of the 1992 distribution feeder analysis under normal conditions. As shown in this table, several feeders had voltages which exceeded an 8 volt drop from the substation. The conductor loading criteria is that 100 percent of the planning criteria loading shall not be exceeded. The conductor ratings are listed in Table II-6. No conductor was overloaded in the 1992 analysis.

Analysis of Existing System with 1992 Loads

The existing system with 1992 loads was analyzed by calculating feeder voltage drop and loading as well as substation loading. The existing system map in the Appendix shows the voltage drop at key locations on the FKEC distribution system. As a result of the distribution primary analysis, the following feeder and substation problem areas were identified.

Jewfish Substation

Feeder E experienced low voltages at 13 points with a maximum unregulated voltage drop of 19.6 volts (approximately 106.4 volts) which occurs at the end of the feeder near Ocean Reef. With the existing line voltage regulator operating, the feeder exceeded an 8 volt drop at 2 points (between the substation and the line regulator). The existing line regulator operated at full boost (10%) and its rating (200 amps) was exceeded.

Florida Keys Electric Cooperative Association, Inc.
Florida - 24 - Monroe

1994-1995 Construction Work Plan

May 1993

RMI
Resource Management International, Inc.
2324 South Congress Avenue, Suite 1-A
West Palm Beach, Florida 33406
(407) 968-4800

RECOMMENDED IMPROVEMENTS

The distribution system improvements recommended in this CWP are described in the following paragraphs by substation area.

Table III-1 summarizes the recommended improvements which are numbered to provide a convenient reference. Table III-2 outlines the additional capacitance required to bring each feeder to 100 percent power factor.

Ocean Reef Substation

Improvement 1 - The Jewfish E feeder is approximately 13 miles long and serves the Ocean Reef Club area. The Ocean Reef Club represents approximately 95 percent of the load on the feeder which is located at the end of the 13 mile distribution line. In comparison to the LRP and the last CWP, the E feeder's load growth has significantly increased. The 1992 E feeder load, 10,750 kW, is 19 percent higher than the projected 1992 E feeder load of 8,996 kW from the 1991-1992 CWP. We now project that the E feeder's load will almost reach the LRP's interim #2 (2010) load projections by the end of this 1994-1995 CWP.

✳ Because of the 11,928 kW load projection in 1995 on the E feeder, its location at the end of the 13 mile line, the concerns over increased environmental line maintenance restrictions and the significant distribution line losses from continuing to serve the Ocean Reef area from the Jewfish Substation E feeder, this CWP recommends that an Ocean Reef Substation be built in this CWP. Based on Ocean Reef's load growth and FKEC's future demand and energy cost from the Long Term Contract rate projections, the loss savings from adding the Ocean Reef Substation was determined to offset its expected cost. (Expected loss savings for 1995 were estimated at 2,557,573 kWh/year x $.0771/kWh = $197,189.) The new substation is expected to be installed in-line under the existing transmission line so that minimum transmission work will be required.

Improvement 2 replaces the existing, overloaded, voltage regulator. This regulator will be used for back-up of the Ocean Reef Substation transformer. Should this substation be taken out of service, the Jewfish E feeder tie could be used to temporarily serve the Ocean Reef area. This regulator will be moved closer to the Jewfish substation to maintain less than an 8 volt drop under backup operation.

Improvements 3 and 4 are capacitor bank additions to minimize losses and improve voltage.

1996 - 1997 CONSTRUCTION WORK PLAN

FOR

FLORIDA KEYS ELECTRIC COOPERATIVE ASSOCIATION, INC. (FKEC)

FLORIDA - 24 - MONROE

TAVERNIER, FLORIDA

Prepared by:
FKEC Engineering Department
Tavernier, Florida
November 1995

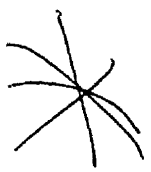
RECOMMENDED IMPROVEMENTS

The distribution system improvements recommended in this CWP are described in the following paragraphs by substation area.

Table III-2 summarizes the recommended improvements which are numbered to provide a convenient reference.

Ocean Reef Substation

Improvement 1



The Jewfish "E" feeder is approximately 13 miles long running adjacent to County Road 905 and serving the Ocean Reef Club at its end. The Ocean Reef Club represents approximately 84 percent of the load on the feeder. The 1990 LRP estimated the interim #1 "E" feeder load to equal 10,876 kW in the year 2000. The actual 1995 Feeder "E" peak load was 10,970 kW and the projected 1997 peak load is estimated at 11,379 kW which is 4.6% higher than the interim #1 LRP level.

Because of the 11,379 kW load projection in 1997 on the "E" feeder, its location at the end of the 13 mile line, the concerns over increased environmental line maintenance restrictions and the significant distribution line losses, it is recommended that the Ocean Reef Substation be carried over from the previous '94-'95 CWP and built in this CWP. Based on Ocean Reef's continuing load growth and FKEC's future demand and energy cost from the Long Term Contract rate projections, the loss savings from adding the Ocean Reef Substation was determined to offset its expected

cost. Expected loss savings for 1997 was calculated at (526.41 kW loss)(24 hrs)(365 days)(58.5% load factor)(3.75¢ kWh) + (526.41)(10.02)(12) = $164,457 which includes energy and demand charges. The new substation is expected to be installed in-line under the existing transmission line so that minimum transmission work will be required.

Jewfish Substation

It is recommended to relocate the normal open point on the "K" feeder from switch IL155, Structure 347 to switch IL150, Structure 322. The projected 1997 Jewfish "K" feeder load is 14,398 kW. This will transfer approximately 5,820 kW to the Key Largo "K" feeder. The new 1997 projected Jewfish "K" feeder load will be 8,374 kW and the Key Largo "K" feeder load will increase from 5,829 kW to 11,765 kW. This recommendation will create an estimated 1997 loss savings of $32,179.

Tavernier Substation

Improvement 2 Replace Feeder "U" McGraw Edison Electronic Recloser with a distribution breaker. The recloser is out of date and unreliable. Add breaker protection and upgrade antiquated 600 amp disconnect switches to 1200 amp disconnect switches.

Islamorada Substation

Improvement 3 Install 25 kV bus differential protection. The substation 25 kV bus consists of underground cable located in a large vault room under the substation control house. Presently the only protection for the 25 kV bus and feeder breakers is the transformer overcurrent device. It takes ten to thirty seconds for this device to clear a fault depending on fault magnitude. This creates a safety hazard for personnel working in the vault room and the

AFFIDAVIT OF JOHN M. BURCH

STATE OF FLORIDA
COUNTY OF MONROE

BEFORE ME, the undersigned authority, personally appeared the undersigned, **JOHN M. BURCH,** hereinafter referred to as "Affiant", and who, being by me first duly sworn, on oath or affirmation, says:

1. That Affiant is the Director of Engineering for the Florida Keys Electric Cooperative (FKEC) and that Affiant has personal knowledge of the information provided in this document.

2. The 2-page memo from myself, John M. Burch, to Timothy E. Planer entitled "Loss of Jewfish "E" Feeder to Serve North Key Largo Customers" dated June 10, 2002 and the graph entitled "Forecast of "E" Feeder Peak Demand", at pages 8 and 10, respectively, of the document referred to in paragraph 2 of Timothy Planer's affidavit entitled "Development Summary of North Key Largo Substation", are true and correct to the best of my knowledge and belief.

3. The attached 3-page memo from myself, John M. Burch, to Timothy E. Planer entitled "Failure of North Key Largo "E" Feeder" dated July 12, 2002 and its 3 included Exhibits labeled "Exhibit A - 'Existing System'", "Exhibit B - 'North Key Largo "E" Feeder Historical Load Chart'", and "Exhibit C - 'Proposed System'" were prepared by myself and are true and correct to the best of my knowledge and belief.

4. The attached Exhibits labeled "D" and "E" were prepared under my supervision and are true and correct to the best of my knowledge and belief.

   A. Exhibit "D" is a map of the Northern Key Largo Area, showing the location of the proposed substation relative to the load at the Ocean Reef and Anglers Club. It also shows the great distance that the current electrical feeder must span between the Ocean Reef load and the Ozmoody Substation 12 miles away.

B. Exhibit "E" is a needs analysis that demonstrates the suitability of the site FKEC selected over 11 other sites. The site FKEC selected scored nearly 40% higher than the next most suitable site.

DATED this 22 day of July, 2002.

JOHN M. BURCH

STATE OF FLORIDA
COUNTY OF MONROE

I HEREBY CERTIFY that the foregoing instrument was sworn to, subscribed and acknowledged before me this day, by **JOHN M. BURCH**, who is personally known to me or has produced _____ as identification and who did (did not) take an oath.

WITNESS my hand and official seal in the county and state last aforesaid this 22 day of July, 2002.

Notary Public
Print Name: SUSAN P. KOHLHOFER

SUSAN P. KOHLHOFER
MY COMMISSION # CC 918353
EXPIRES: March 14, 2004
Bonded Thru Notary Public Underwriters

Commission Number: CC 918353

Date Commission Expires: March 14, 2004

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MEMORANDUM

DATE: **July 12, 2002**

TO: **Timothy E. Planer, Chief Executive Officer and General Manager**

FROM: **John Burch, P.E., Director of Engineering**

RE: **Failure of North Key Largo "E" Feeder**

The electrical energy serving the North Key Largo Area is unnecessarily transported ten (10) miles on the high voltage transport system to the Oz Moody interchange where it is transformed to a distributable voltage level for consumption (see exhibit "A"). This energy must then be transported an additional 11.8 miles to the beginning of the load area at the Ocean Reef Club where it is subdivided into lateral feeders to serve areas several miles long.

The energy and voltage resources lost to unnecessarily transport this large amount of electrical energy twenty miles creates a power supply that is unacceptable according to national standards in terms of performance, safety and reliability.

American National Standard ANSI C84.1 and Rural Utility Service Bulletin 169-4 require electric supply system voltages to operate within specified limits. The maximum voltage drop allowed on a regulated primary distribution system is 6.67 percent. During peak loading intervals the regulated primary system voltage drop on the "E" Feeder serving the North Key Largo Area is greater than thirteen (13) percent. At this level, the system voltage is below the "Range B" requirement specified in the standards where some types of utilization equipment will not perform satisfactorily or efficiently, may fail to operate, may be seriously damaged (motors) or may suffer shortened operating life. National standards require voltages that fall outside the limits of "Range B" to be corrected immediately. The existing "E" Feeder voltage is operating at maximum voltage regulation during peak loading intervals, therefore the electrical service in the North Key Largo Area is substandard.

The substandard condition of the "E" Feeder voltage requires more amps to be transported to the load to maintain electrical power transfer. This limits maximum power transfer on the "E" Feeder to 20 megavolt-amperes (MVA). Loading the "E" feeder to approximately 20 MVA and above will exceed the thermal limits of the all-aluminum primary conductors (AAC) causing excessive sags and endangering the public's safety. The historical loading chart for the North Key Largo "E" feeder (see exhibit "B") clearly shows that winter loading is approaching the thermal limits of the primary

conductors. The conductors thermal limits will most likely be exceeded in the winter of 2003. An extreme cold snap would most likely cause the thermal limits to be exceeded sooner.

A study performed by Beckett and LaRue, Inc. Consulting Engineers has determined that poles supporting the "E" feeder conductors are at maximum wind loading limits as required by the National Electrical Safety Code (NESC). Additional engineering calculations have shown that voltage drops will exceed national standards if the existing "E" feeder conductors are replaced with much larger conductors. Therefore, the existing distribution system serving the North Key Largo area was not designed to transport the existing power loads required and is inadequate for any additional corrective actions.

Rural Utility Service Bulletins 60-8 and 161-1 are the national standards that require we achieve a goal of two hours per year, per consumer, maximum interruption time. The national standards consider an average of five hours or more interruption time, per consumer, per year as unacceptable and states that prompt corrective action must be taken to correct the problem. The only exception is when the outages are caused by extremely severe weather such as hurricanes and tornadoes.

The "E" Feeder serving the North Key Largo area has recently experienced outage times approaching five hours per consumer, per year, due to excessive loading. The remaining customers on a system wide basis experience yearly outage times of 0.5 hours per consumer per year. Providing a reliable source of electricity is important for all of our customers.

The inherent character of the Jewfish "E" feeder proves to be inadequate for transporting the required electrical energy to the Ocean Reef area.

A 250 percent increase in electrical energy demand has occurred over a 12 year period. Last year approximately sixty-two new services were added in the Ocean Reef area with many other customers expanding the size of existing homes. Twenty percent of the residential area contains vacant lots and one of the three golf courses is platted as a future subdivision. Approximately 71,000 square feet of commercial building space is readily available for construction. Therefore, the potential for future load growth continues to exist.

Substandard voltage conditions and the requirement to construct an electrical substation interchange capable of supplying reliable power to the North Key Largo area was identified by the professional engineering consulting firm Resource Management International (RMI) in the year 1990.

I believe Florida Keys Electric Cooperative (FKEC) has been diligent in its attempt to correct a substandard electrical supply system that has grown exceedingly substandard over the past ten years. FKEC has worked with federal, state, and local environmental agencies including environmental consultants to find the most desirable site for construction of the electrical substation interchange, a site meeting the electrical system design criteria and where construction would have a minimal impact on the environment. Twelve sites were evaluated (Key Largo Substation Needs Analysis, August 2, 2000) with the proposed site on the abandoned State Road 905 Right-of-Way (adjacent to the old radar site) being the most suitable site (See exhibit C). In July of 2001 FKEC received approval for the construction of the electrical substation interchange on the proposed site by the

Monroe County Planning Commission. However, for the past year the issuance of the building permit has been postponed by the Florida Izaak Walton League, who have filed several law suits. I am concerned that the electrical system ("E" Feeder) will fail to operate stopping the flow of electricity to the North Key Largo area before the much needed electrical substation is constructed thus jeopardizing the public's safety and the public's right to receive adequate and reliable electrical power.

EXHIBIT A

EXISTING SYSTEM

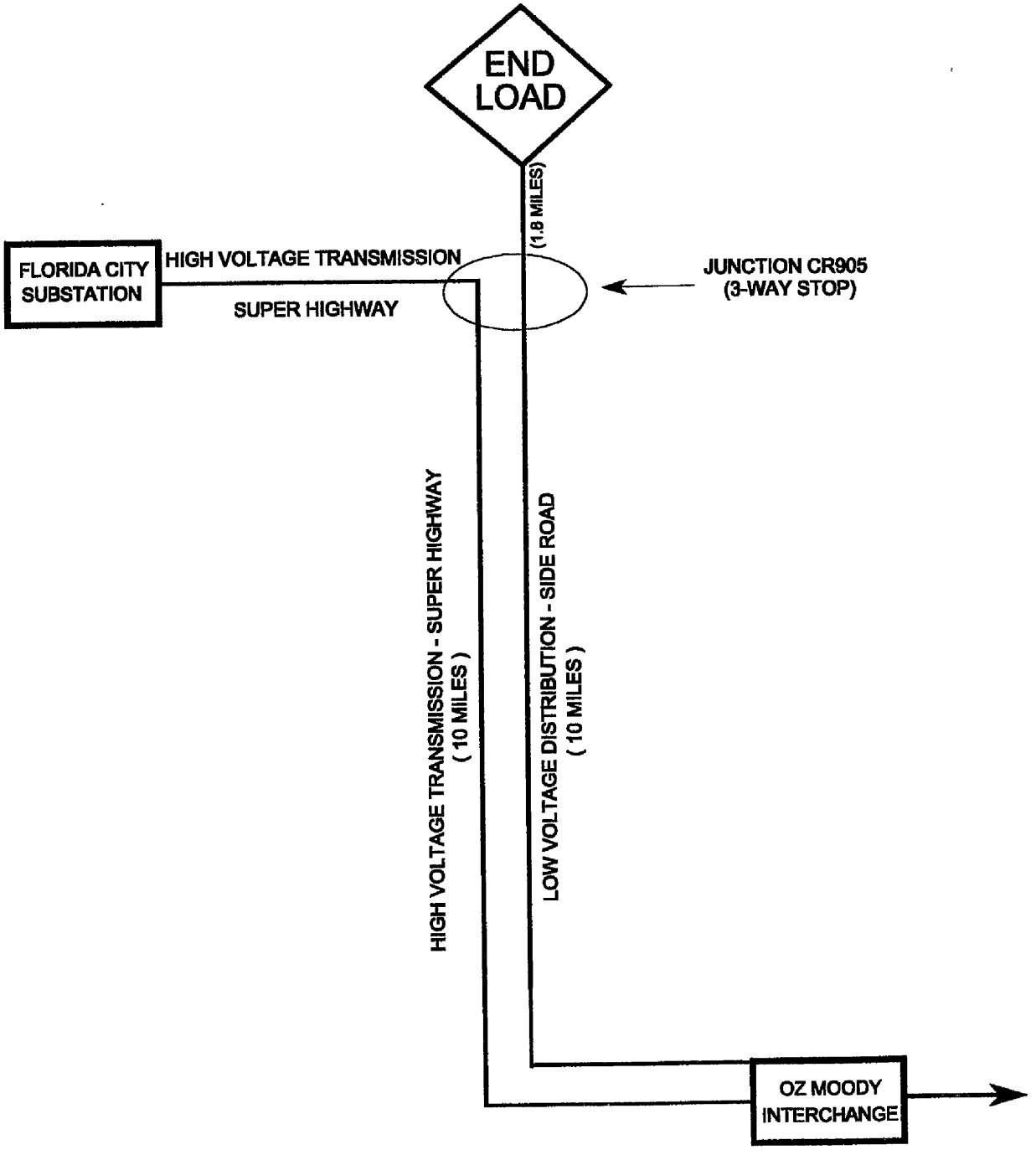
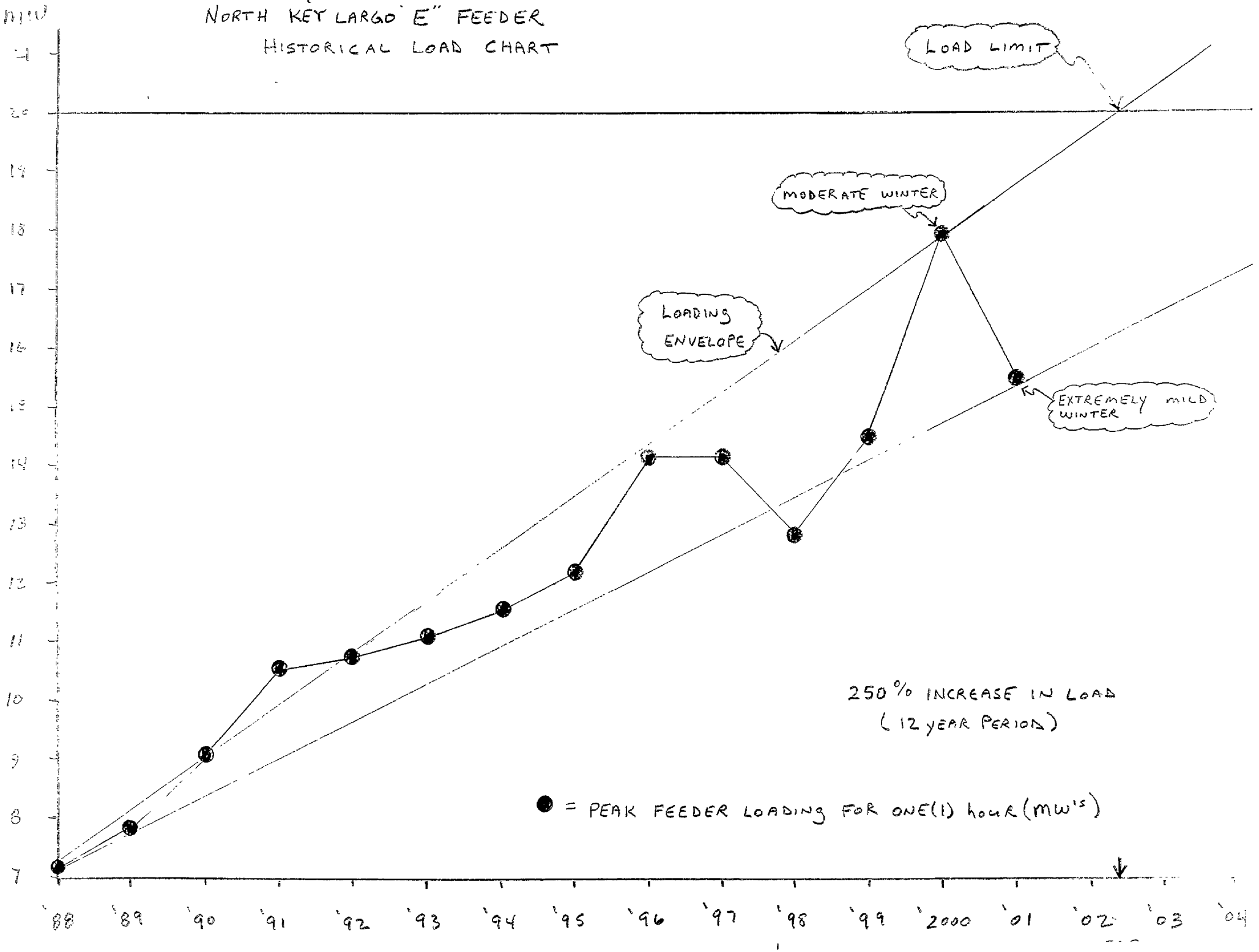
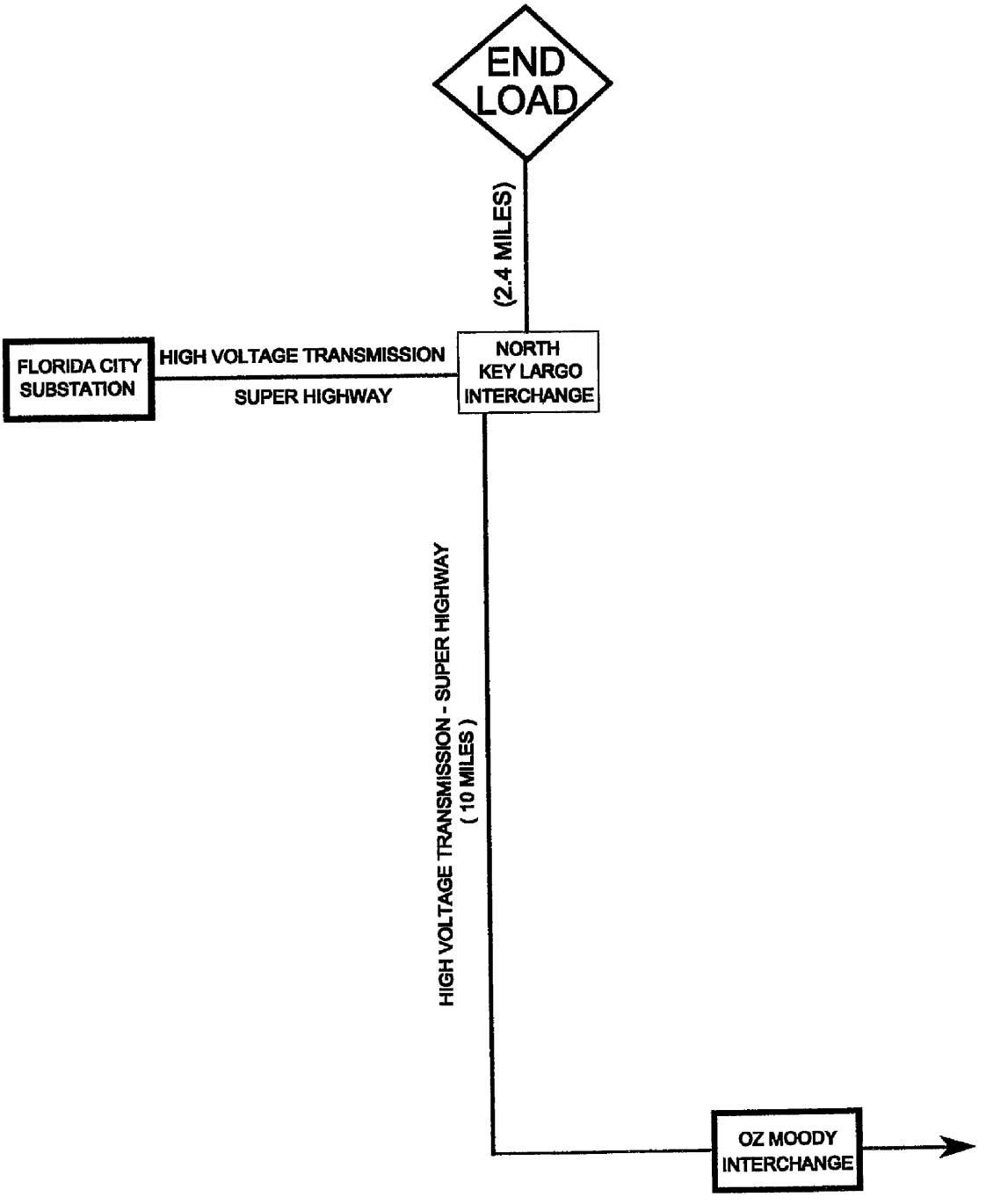


Exhibit "13"

North Key Largo "E" Feeder
Historical Load Chart



PROPOSED SYSTEM



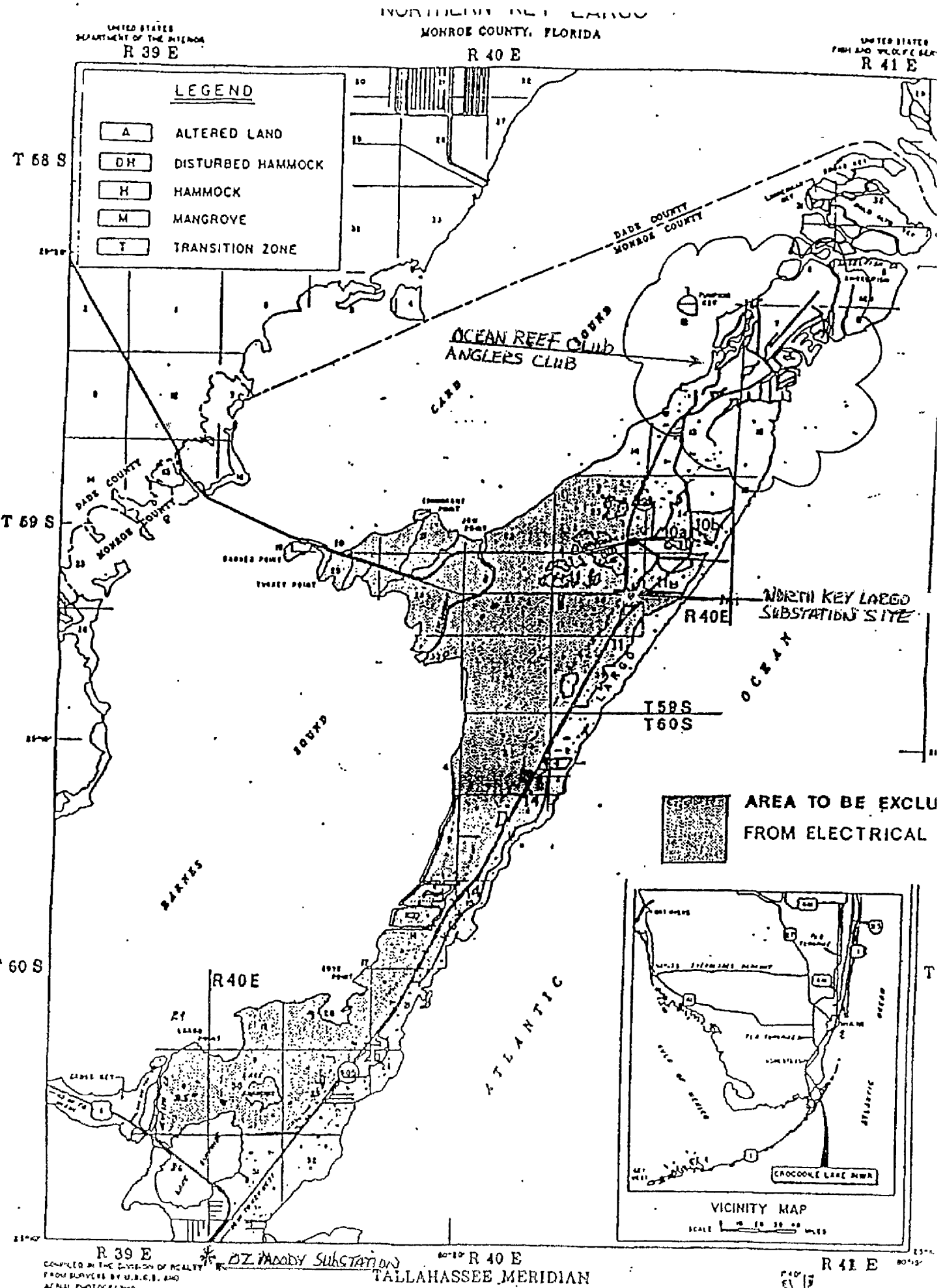

NORTHERN KEY LARGO
MONROE COUNTY, FLORIDA
R 39 E
R 40 E
R 41 E
LEGEND
A ALTERED LAND
DH DISTURBED HAMMOCK
H HAMMOCK
M MANGROVE
T TRANSITION ZONE
T 58 S
T 59 S
T 60 S
DADE COUNTY
MONROE COUNTY
OCEAN REEF Club
ANGLERS CLUB
CARD SOUND
BARNES SOUND
ATLANTIC OCEAN
NORTH KEY LARGO SUBSTATION SITE
T58S
T60S
R40E
AREA TO BE EXCLU
FROM ELECTRICAL
VICINITY MAP
CROCODILE LAKE NWR
OZ MOODY SUBSTATION
TALLAHASSEE MERIDIAN

EXHIBIT "D"

FLORIDA KEYS ELECTRIC COOPERATIVE
KEY LARGO SUBSTATION NEEDS ANALYSIS

Legend
Normative Suitability Scale

1 2 3 4 5
Least Suitable — Most Suitable

Alternative Site Selection Criteria	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	FKEC Site	Notes
Project Electrical Suitability	1	1	1	5	5	3	3	3	1	1	3	5	Geographic criterion see site selection map
Environmental Criteria	4	1	1	4	4	2	2	2	4	4	1	4	Partially disturbed sites rank higher
Land Ownership Criteria	3	2	2	1	1	1	1	1	1	1	1	5	Lands owned and restricted by the State rank lower
Land Use and Zoning Designations	1	1	1	2	5	1	1	1	3	1	1	5	Disturbed sites where use allowed rank higher. Use conflicts rank lower.
Comprehensive Plan Policy Criteria	2	1	1	2	2	1	1	1	4	2	1	4	Co-location of public facilities rank higher, natural areas lower.
Principles for Guiding Development	1	1	1	3	3	2	2	2	1	1	2	5	Sites with better economy for FKEC rank higher
Surrounding Lands	3	1	1	3	3	1	1	1	3	2	1	4	Use impacts on surrounding property rank lower.
Totals	15	8	8	20	23	11	11	11	17	12	10	32	

The normative scale applied above is intended to provide a standard numerical approach for comparing the sites in relative terms when using diverse criteria, several of which do not lend themselves to easily comparable standards. The consultants and staff of the Co-op used this approach of ranking.

EXHIBIT "E"