8.2.6 Licensee further agrees and understands that no Attachment will be permitted which results in more than 200 lbs. of unguyed tension on any given Pole.

8.2.7 Each Attachment shall be subject to the pre-existing rights of all prior attachees to the Pole.

8.2.8 Licensee agrees to install and mark the cable in a manner consistent with Florida Utility Coordinating Committee adopted guidelines, so that it can be easily identified from the ground and from similar cables on the Pole. Attachments predating this Agreement shall be marked as they are routinely maintained.

8.3 FPL's Right of Inspection

8.3.1 FPL shall have the right to inspect each new installation of Licensee on FPL Poles and in the vicinity of FPL lines or appliances and to make surveys every five years or more often as plant conditions may warrant, of the entire system of Licensee on FPL's Poles. Such inspections or surveys made, or not, shall not operate to relieve Licensee of any responsibility, obligation or liability assumed under this Agreement. All direct and indirect cost associated with these inspections shall be paid by the Licensee, provided, however, that Licensee shall have the option of entering into a survey agreement for inventory of Pole number, ownership of pole, type of Pole, identification of parties attached to the Pole and number of Attachments per Pole with Licensee's contractor and FPL if such survey can be conducted at less cost to Licensee.

8.3.2 Upon receipt of notice of a clearance violation from FPL, Licensee shall correct the violation within 30 days, whether or not the violation was caused by FPL's construction after Licensee has

obtained a permit for and installed its facilities on the FPL Poles, except that Licensee shall not be responsible for correcting violations caused by FPL's use of more Pole space than necessary to meet FPL's distribution/construction standards. If Licensee fails to correct the violation within said period, then FPL shall have the right to correct the violation at Licensee's expense. In addition, Licensee shall pay for all Rearrangements of FPL facilities and of attachments of others, if necessary in order to correct such violation.

9. Rearrangement, Relocation and Transfer of Attachments

9.1 Rearrangement or Transfer at FPL's Discretion Upon Confirmation

Where Licensee and FPL have confirmed agreement to the following paragraphs 9.1.1 through 9.1.5 by separate letter or other written acknowledgement:

9.1.1 FPL or the FPL contractor may, at FPL's sole discretion, Rearrange or Transfer Licensee's system, or any part thereof, at the time that FPL relocates its Facilities or replaces existing Poles or installs an intermediate Pole within an existing jointly used Pole line. All such Rearrangement or Transfer shall be at the expense of Licensee.

9.1.2 Licensee shall train FPL crews or contractors on the methodology and techniques required to Rearrange, Relocate or Transfer Licensee's Attachments. This training shall be held prior to the commencement of the initial Rearrangement, Relocation, or Transfer work to be performed under this Agreement.

9.1.3 Licensee agrees to provide FPL, at no cost to FPL, all hardware, cable, material, and equipment required for the Rearrangement or Transfer of Licensee's system or part thereof.

9.1.4 Intermediate Poles

If FPL makes the initial Attachment of Licensee's cable to an intermediate Pole, then FPL will provide upon completion written notification to Licensee that a new Attachment has been made. Licensee will be responsible for providing the proper permit application, to initiate the recording and billing for said Attachment.

9.1.5 Licensee's Inspection and Approval

FPL shall promptly notify Licensee upon completion of any Licensee transfer work performed by FPL's crews or its authorized contractors. The Licensee shall have the right to inspect and shall have ten (10) working days from the date of notice of work completions to either approve the transfer or to notify FPL of any corrections required for approval. FPL shall have twenty (20) working days from the receipt of written notification to correct any unsatisfactory transfer work. FPL will consider any work performed under this Agreement approved and accepted if the ten (10) day period has expired without notification by Licensee of the required corrections.

9.2 Transfer by FPL After 30 Days Notice to Licensee

If FPL and Licensee have confirmed agreement as set forth in Section 9.1 above and FPL exercises its discretion not to relocate or transfer Licensee's system or if FPL and Licensee have not confirmed agreement as set forth in Section 9.1 above, then upon written notice to Licensee from FPL, Licensee shall Rearrange or Transfer its Attachments and supporting hardware. If Licensee fails to perform all necessary Rearrangement or Transfer work within the thirty (30) days after written notice, FPL at its option and at the sole expense of Licensee, may do whatever is necessary, including the hiring of a

contractor, to make the necessary transfers of all existing Attachments to the new FPL pole so that the replaced Pole can be removed within a reasonable time.

9.3 Rules and Regulations

All transfer work contemplated by this Agreement shall be in conformity with the recommendations and requirements of the applicable edition of the "National Electric Safety Code" or governmental authorities having jurisdiction to make requirements and shall be in conformance with all specifications of the latest CATV Attachment Agreement executed between FPL and Licensee.

9.4 Ground Clearances

FPL will transfer the Licensee's Attachments at the same ground clearances as established by the existing Attachments and will assume that the existing ground clearance is in compliance with the rules and regulations governing such matters. The Licensee agrees to and hereby accepts all responsibility, including cost, for and associated with correcting existing ground clearances.

9.5 Facility Clearances

Whenever work planned by FPL includes the transfer of Licensee Attachments with existing improper clearances between FPL and Licensee's facilities (as set forth in this Agreement) FPL will advise the Licensee prior to proceeding with the transfer, except that in the case of emergency Pole replacements, FPL will advise Licensee of such improper clearance within one (1) working day after the transfer. Such advisement or lack thereof shall in no way affect Licensee's obligation under the indemnity section.

9.6 Transfer Fee

Licensee shall pay FPL upon completion and acceptance of any Licensee transfer work performed by FPL or its contractors, an appropriate transfer fee as stated in Section 16. The transfer fee effective June 1, 19 90 until the following June shall be $ 50.00 per Pole including

intermediate Poles, except for those Poles where Licensee has only a service cable attachment. FPL will not charge Licensee a transfer fee for the transfer of Licensee's service cables.

For subsequent years, the transfer fee may be adjusted and will be based on all direct and indirect cost associated with performing said transfers. The transfer fee shall be independent of and in addition to the rental fee as established in the latest CATV Attachment Agreement that has been executed between FPL and the Licensee. Any increase in the transfer fee shall become effective on June 1 for that year. FPL shall notify the Licensee in writing of any change in transfer fee rate.

10. Licensee's Removal of its Attachments

Licensee may at any time remove its Attachments from any FPL Pole, but shall immediately give FPL written notice of such removal in the form of Exhibit B, hereto attached and made a part hereof. No refund of any rental will be due on account of such removal, nor proration made for less than one-half year.

11. Damage to Facilities on Pole

Licensee shall exercise special precautions to avoid damage to facilities of FPL and of others supported on the FPL Pole and shall make an immediate report to FPL and to the owners of the other facilities of damage to those facilities.

12. Indemnity

Licensee shall exercise its privileges hereunder at its own sole risk and shall release, indemnify, protect, defend and save harmless FPL, its parent, subsidiaries, affiliates and their respective officers, directors, agents and employees (FPL Entities) from and against any and all claims and demands whatsoever including court costs and attorney's fees by reason of damage to property and injury or death to persons, including payments made under any Workers' Compensation Law or under any plan for employees' disability and death benefits, which may arise out of or be caused, in whole or in part, by Licensee's or FPL's negligence resulting in connection with or by the erection, maintenance, presence, use, transfer or

removal of Attachments or the proximity of the respective cables, wires, apparatuses and appliances of the parties hereto, or any act or omission of Licensee on or in the vicinity of FPL Poles or the Poles of any other person, firm or corporation on which FPL maintains attachments.

13. Insurance

13.1 Licensee shall procure prior to exercise of its rights under this Agreement and maintain through the terms of this Agreement the following insurance with insurance companies acceptable to FPL.

13.2 Workers' Compensation Insurance for statutory obligations imposed by Workers' Compensation or Occupational Disease Laws, including, where applicable, the United States Longshoremen's and Harbor Workers' Act, the Federal Employers' Liability Act and the Jones Act. Employers' Liability Insurance shall be provided with a limit of five hundred thousand dollars ($500,000) per accident.

13.3 Comprehensive General Liability Insurance, including Broad Form Contractual Liability, with the following minimum limits of liability: Bodily Injury Liability and Property Damage Liability - one million dollars ($1,000,000) combined single limit and three million dollars ($3,000,000) occurrence aggregate.

13.4 Comprehensive Automobile Liability Insurance with the following limits of liability, which shall apply to all owned, non-owned, leased and hired automobiles used by Licensee in the performance of the Work: Bodily Injury Liability and Property Damage Liability - one million dollars ($1,000,000) combined single limit and three million dollars ($3,000,000) occurrence aggregate.

13.5 In the event that any policy furnished by Licensee provides for coverage on a "claims made" basis, the retroactive date of the policy shall be the same as the effective date of this Agreement. Furthermore, for all policies furnished on a "claims made basis," Licensee's providing of such coverage shall survive the termination of this Agreement until the expiration of the maximum statutory period of limitations in the State of Florida for actions

based in contract or in tort; if coverage is on an "occurrence" basis, such insurance shall be maintained by Licensee during the entire term of this Agreement.

13.6 Licensee shall furnish completed Certificate of Insurance (FPL Form 1364) by each Company insuring Licensee to the effect that it has insured Licensee for all liabilities of Licensee under this Agreement and that it will not cancel or change any policy of insurance issued to Licensee except after ten (10) days notice to FPL.

14. Security Bond

14.1 Licensee shall provide and maintain a five thousand dollar ($5,000) security bond in a form satisfactory to FPL or other financial security acceptable to FPL. The bond is for the purpose of protecting the ratepayers and shareholders against additional cost to FPL because of Licensee attaching to FPL poles. The bond will be used to guarantee the satisfactory performance of Licensee's contractual obligations. The bond may be used to pay for any unpaid balance owed by Licensee to FPL under the Agreement including but not limited to the following:

- Physical surveys.
- Any corrections, rearrangement, or removal expenses incurred by FPL which was caused by the CATV company's poor work performance.
- Any expenses associated with the removal of the CATV company's facilities if the Agreement is cancelled.
- Attachment, transfer fees and administrative fees.

14.2 The amount of the bond or financial security is not, and shall not operate as, a limitation of Licensee's obligations under this Agreement. Payment to FPL under the bond shall be in addition to FPL rights or remedies under this Agreement and shall not constitute a waiver thereof.

15. **Rental Payments and Administrative Fee and Back Rent for Unpermitted Attachments**

15.1 Licensee shall pay to FPL, for Attachments for Cable Service only a rental at the rate of $ 5.79 per Pole per year, such rate effective on June 1, 1990. For Attachments for Cable Service and/or Non-Cable Service, Licensee shall pay to FPL a rental at the rate of $ 16.85 per pole per year, such rate effective on June 1, 1990. Notwithstanding the foregoing, as of January 1, 1990 or the date of the Agreement, whichever is later, Licensee shall be charged the Non-Cable Service rate for each existing and subsequent Attachment, except as provided in Section 2.2 above.

15.2 On the first day of June each year thereafter that this Agreement remains in force and effect, the annual rental per Pole Attachment for Cable Service and for Non-Cable Service shall be adjusted in accordance with the most current Pole cost data compiled by FPL. Semiannual rental payments shall be advanced based upon the number of FPL Poles on which Attachments are being maintained on the first day of December and the first day of June, respectively. The payment of rental hereunder shall include such pro rata amount as may be due for the increased Attachments or change in use to FPL Poles since the previous billing date. An Attachment or change in use of Attachment to any FPL Pole without notification of Attachment or change in use or FPL's authorization shall be deemed to have been made on the effective date of this Agreement or the date of the last survey, whichever is later. FPL's acceptance of payment for unauthorized Attachments shall not constitute a waiver of any other rights or remedies under this Agreement or at law.

15.3 Licensee shall pay FPL a fifty dollar ($50.00) Administrative Fee and, in addition, back rental to the date of the last physical survey for any Attachment to FPL Poles made without FPL's authorization. Provided, however, for such Attachments detected in a physical survey, Licensee's obligation to pay the Administrative Fee and back rental shall apply only to those

Attachments which were not authorized by FPL and which exceed three percent (3%) of Licensee's permits within the area being surveyed. In addition, if Licensee has entered into a CATV Attachment Agreement with FPL prior to the date of this Agreement, Licensee shall survey its existing Attachments and permits and within six months after the date of this Agreement and shall provide FPL with applications for permits for all such Attachments not previously authorized by FPL. FPL shall not charge Licensee the Administrative Fee or back rental for such subsequently permitted Attachments. FPL's acceptance of the Administrative Fee or back rent, or consent to waive such payment in the two situations set forth above, shall not constitute a waiver of any of FPL's other rights or remedies under this Agreement.

16. Payment of Bills or Invoices

Bills for inspections, surveys, expenses and other charges under this Agreement, except those advance payments specifically covered herein, shall be payable within thirty (30) days after presentation. Non-payment of bills shall constitute a default going to the essence of this Agreement and shall entitle FPL to immediately cancel this Agreement, at the option of FPL.

17. Default

If Licensee shall fail to comply with any of the provisions of this Agreement, or default in any of its obligations under this Agreement and shall fail within thirty (30) days after written notice from FPL to correct such default or non-compliance, FPL may, at its option, forthwith terminate this Agreement pursuant to Section 18 or cancel the permit covering the Poles as to which such default or noncompliance shall have occurred. FPL shall also have the right, at its option, to allow the Agreement to remain in effect but to deny any application for new Attachments until Licensee has cured its default or non-compliance. All remedies afforded in this Agreement shall be in addition to any other remedy provided herein or by law.

18. Term

The term of this Agreement shall be indefinite commencing on the effective date of this Agreement, as set forth above if not terminated under the terms of this Section. Either party may terminate this Agreement with or without cause upon sixty (60) days written notice to the other party. Upon termination of the Agreement in accordance with any of its terms, Licensee shall use its best efforts to remove as quickly as possible its cables, wires, and associated support hardware from all of FPL Poles. Following such removal a proportionate refund of all prepaid rentals shall be made only for those facilities removed. If not so removed, FPL shall have the right to remove them at the cost and expense of Licensee and without any liability therefor.

19. Automatic Termination

Notwithstanding the provisions of any other section herein, this Agreement shall automatically terminate one year after the date hereof in the event that Licensee has no existing permitted Attachments as of the date hereof and shall fail to apply for a permit within such year. In addition, individual permits issued under this Agreement may automatically expire as provided in Exhibit A and A-1.

20. No Property Rights

No use, however extended, of FPL Poles, under this Agreement, shall create or vest in Licensee any ownership or property rights in the FPL Poles, but Licensee's rights shall be and remain a mere license. This Agreement shall not be construed to compel FPL to maintain any of such FPL Poles for a period longer than demanded by its own service requirements. FPL reserves the right to deny the licensing of any FPL Poles to the Licensee for any reason whatsoever (within the sole discretion of FPL's Director of Distribution Engineering or Power System Engineering).

21. Non-Assignability

Licensee shall not assign, transfer or sublet in whole or part the privileges hereby granted or permit any other person to use or lash to Licensee's cables or wires which are attached to the FPL Poles for any purpose other than allowing Licensee to furnish Cable Service and/or Non-

Cable Service in the Service Area and Licensee shall not assign, transfer or sublet for such purpose without the prior written consent of FPL. FPL may in its sole and absolute discretion give consent or withhold consent.

The acceptance by FPL of attachment or other fees from any other person shall not be deemed to be a waiver of any provision of this Agreement or to be a consent to assignment or subletting by Licensee. If FPL, in its sole discretion consents to assignment, Licensee shall pay to FPL, FPL's administrative costs, overhead and fees of counsel in connection with such assignment or subletting a minimum of one hundred dollars ($100.00).

22. Non-Exclusivity

Nothing herein contained shall be construed to confer on Licensee an exclusive right to make Attachments to FPL Poles in the area covered by this Agreement and any supplement thereto, and it is expressly understood that FPL has the unconditional right to permit any other person, firm or corporation to make attachments to the same FPL Poles in that area covered in this Agreement and supplements thereto.

23. Notices

All notices or other communications to either party by the other required under this Agreement shall be made in writing and addressed as follows:

To Licensee: Continental Cablevision
Attn: District Manager
141 N.W. 16th Street
Pompano Beach, FL 33060

With Copies to: _____

To FPL: Florida Power & Light Company
Attn:_____
_____
_____
_____

With Copies to: Dennis LaBelle, Principal Engineer
Distribution Engineering and
Service Planning Department/GO
Florida Power & Light Company
P.O. Box 029100
Miami, Florida 33102

24. Successors and Assigns

Subject to the provisions of Section 21 hereof, this Agreement shall extend to and bind the successors and assigns of the parties hereto.

25. Non-Waiver

Failure to enforce or insist upon compliance with any of the terms or conditions of this Agreement shall not constitute a general waiver, or relinquishment of any such terms or conditions, but the same shall be and remain at all times in full force and effect, nor shall either party be estopped to enforce or to seek relief from a prior breach.

26. Heading not Controlling

Headings used in this Agreement are for reference purposes only and shall not be deemed part of this Agreement.

27. Complete Agreement

This Agreement constitutes the entire Agreement between the parties concerning the subject matter hereof, and supersedes all prior Agreements, both oral and written, representations, statements, negotiations and undertakings by and between the parties. Notwithstanding the foregoing, any pole attachment transfer agreements between FPL and Licensee shall not be superseded by this Agreement.

28. Severability

If any term or provision of this Agreement shall be held invalid or unenforceable, the remaining terms and provisions of this Agreement shall remain in full force and effect and such invalid, illegal or unenforceable term or provision shall be deemed not to be a part of this Agreement.

Witnesses:

AMERICAN CABLESYSTEMS OF FLORIDA, LTD. d/b/a CONTINENTAL CABLEVISION OF BROWARD COUNTY

By: American Cablesystems of Florida, Inc., its General Partner

By: _____
Ellen Filipiak

Its: _____
Vice President & District Mgr.

Witnesses:

FLORIDA POWER & LIGHT COMPANY

By: _____
Vice President

Attest: _____
Secretary
(FPL Corporate Seal)

EXHIBIT A

CABLE SERVICE ATTACHMENT APPLICATION AND PERMIT

_____

CATV Coproration / Partnership

TYPE OF APPLICATION
(Check One)

☐ Make-Ready

☐ Non Make-Ready

_____, 19 ___
Date submitted by CATV Co.

_____, 19 ___
Date received by FPL

I. APPLICATION

In accordance with the terms of Agreement dated _____, 19___, application is hereby made for permit to make attachment to the following poles.

Location City: _____ County: _____ Florida

Pole Numbers	Pole Locations (Indicate which poles require Make-Ready work)

I certify that the attachments shall be in compliance with the latest edition of the National Electric Safety Code and FPL requirements.

Licensee: _____

By: _____
NAME (Print)

_____
SIGNATURE

_____
TITLE

II. PERMIT

Permit Granted _____, 19____
(Subject to your approval of Make-Ready Cost)

Permit Denied _____, 19____

FLORIDA POWER & LIGHT COMPANY

By: _____

Title: _____

Estimated Make-Ready Cost

$ _____ payable in advance.

Permit Number _____

Total Previous Poles _____

Poles this Permit _____

New Total Poles _____

III. GENERAL CONDITIONS

1. A "Make-Ready" permit will automatically expire if attachments are not made and completed within 60 days after notification in writing to Licensee by FPL that Make-Ready work has been completed.
2. A "Non Make-Ready" permit will automatically expire of attachments are not made and completed within 60 days after date of approval and is subject to field conditions and facilities on each pole at the time attachment is made. Licensee shall be required to bear any and all "Make-Ready" cost necessitated by previous attachments.
3. If permit is granted under Section II above, this permit automatically expires, as to the affected poles 30 days after written notice to Licensee that FPL intends to abandon a particular pole line. Within 30 days after such notice, Licensee shall either remove its Attachments from those poles or obtain all necessary permits and easements and, at the discretion of FPL, arrange to purchase such poles from FPL.

(OVER)

Attachment Criteria

NON JOINT USE POLE

(no telephone)

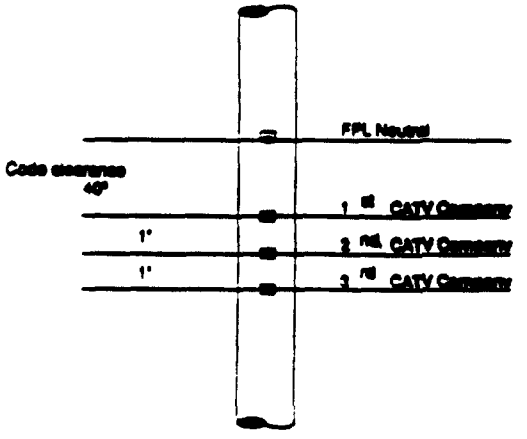


Fig. 1

1. The 1 st cable attachment will be located a minimum of 40" below FPL's lowest cable attachment.
2. All Additional cable attachments will be located 1' below the lowest existing CATV cable.

JOINT USE POLE

(power & telephone)

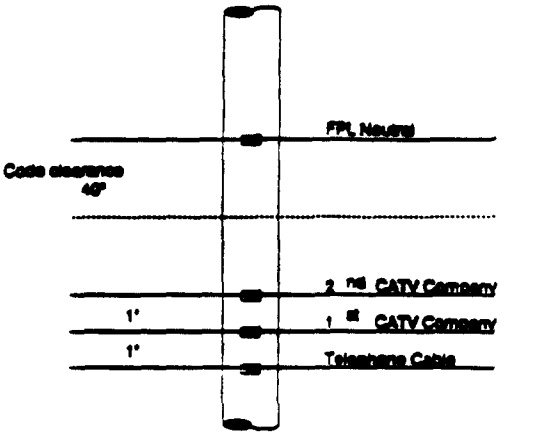


Fig. 2

1. The 1st cable attachment will be located 1' above Telephone's highest cable attachment.
2. The 2nd cable attachment will be located 1' above the existing CATV cable.

NOTE: No CATV cable or attachment will intrude on the 40" NESC code clearance space.

CATV Space Allocation

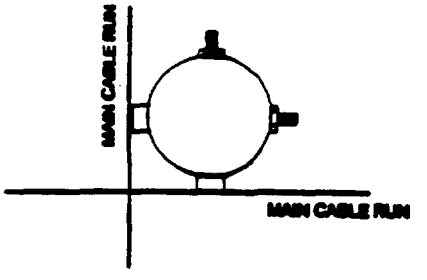


Fig. 3

POLE ATTACHMENT LOCATION

1. All mainline cable attachments shall be located either on the same side of the pole as FPL's neutral or on one adjacent side.
2. No mainline cable attachments shall be located on the side of the pole opposite of FPL's neutral.
3. Only 2 sides of the pole, FPL's neutral and one adjacent side, shall be occupied on any given pole.

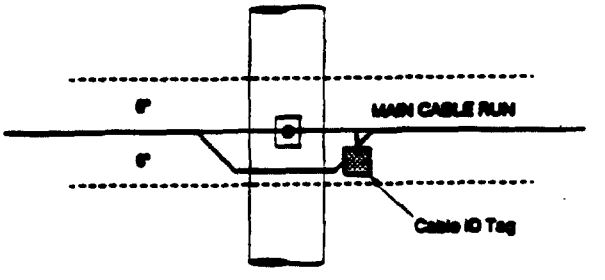


Fig. 4

CABLE IDENTIFICATION TAG

1. Each separate CATV cable attachment shall be identified in accordance with the FUCC's Foreign Attachment Guidelines specifications.
2. Each CATV company shall register their unique Cable ID tag with the FUCC's Joint Use Subcommittee.
3. A Cable ID Tag will be installed at every 1st, 5th and last mainline pole attachment.
4. Cable ID Tag can be attached either to the cable or the attachment hardware.

EXHIBIT A-1

CABLE & NON-CABLE SERVICE ATTACHMENT APPLICATION AND PERMIT

_____

CATV Coproration / Partnership

TYPE OF APPLICATION
(Check One)

☐ Make-Ready

☐ Non Make-Ready

_____, 19 ___
Date submitted by CATV Co.

_____, 19 ___
Date received by FPL

I. APPLICATION

In accordance with the Agreement dated _____, 19__, application is hereby made for permit to attach cables which will carry both CABLE and NON CABLE signals, as defined in and subject to the terms of the CATV Attachment Agreements, of the following poles.

Location : City: _____ County: _____ Florida

Pole Numbers	☑ Non-Cable Service	Pole Locations (Indicate which poles require Make-Ready work)

I certify that the attachments shall be in compliance with the latest edition of the National Electric Safety Code and FPL requirements.

Licensee: _____

By: _____
NAME (Print)

_____
SIGNATURE

_____
TITLE

II. PERMIT

Permit Granted _____, 19____
(Subject to your approval of Make-Ready Cost)

Permit Denied _____, 19____

Estimated Make-Ready Cost

$ _____ payable in advance.

Permit Number _____

Total Previous Poles _____

Poles this Permit _____

New Total Poles _____

FLORIDA POWER & LIGHT COMPANY

By: _____

Title: _____

III. GENERAL CONDITIONS

1. A "Make-Ready" permit will automatically expire if attachments are not made and completed within 60 days after notification in writing to Licensee by FPL that Make-Ready work has been completed.
2. A "Non Make-Ready" permit will automatically expire of attachments are not made and completed within 60 days after date of approval and is subject to field conditions and facilities on each pole at the time attachment is made. Licensee shall be required to bear any and all "Make-Ready" cost necessitated by previous attachments.
3. If permit is granted under Section II above, this permit automatically expires, as to the affected poles 30 days after written notice to Licensee that FPL intends to abandon a particular pole line. Within 30 days after such notice, Licensee shall either remove its Attachments from those poles or obtain all necessary permits and easements and, at the discretion of FPL, arrange to purchase such poles from FPL.

(OVER)

Attachment Criteria

NON JOINT USE POLE

(no telephone)

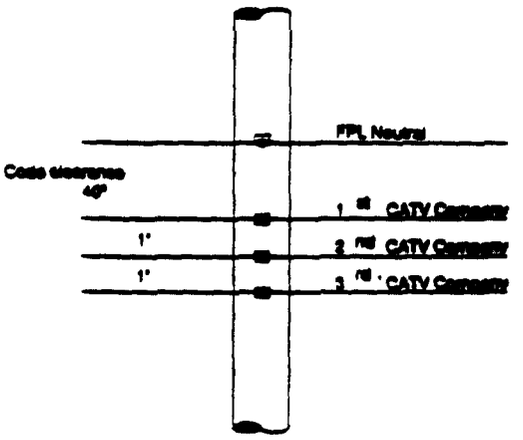


Fig. 1

1. The 1 st cable attachment will be located a minimum of 40" below FPL's lowest cable attachment.
2. All Additional cable attachments will be located 1" below the lowest existing CATV cable.

JOINT USE POLE

(power & telephone)

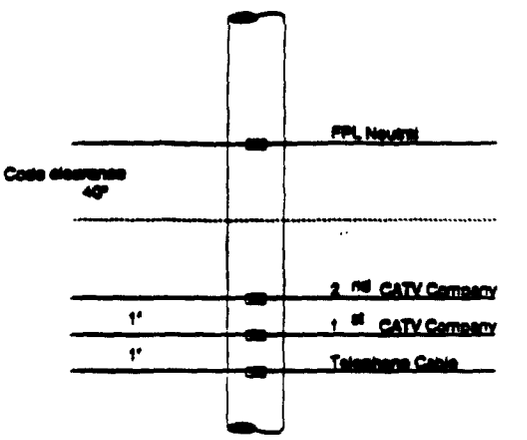


Fig. 2

1. The 1st cable attachment will be located 1" above Telephone's highest cable attachment.
2. The 2nd cable attachment will be located 1" above the existing CATV cable.

NOTE: No CATV cable or attachment will intrude on the 40" NESC code clearance space.

CATV Space Allocation

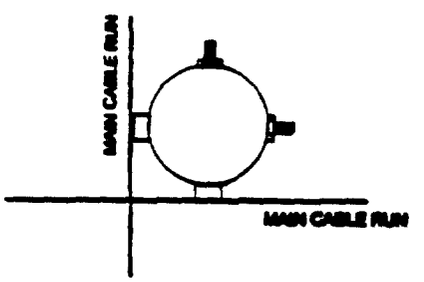


Fig. 3

POLE ATTACHMENT LOCATION

1. All mate cable attachments shall be located either on the same side of the pole as FPL's neutral or on one adjacent side.
2. No mate line cable attachments shall be located on the side of the pole opposite of FPL's neutral.
3. Only 2 sides of the pole, FPL's neutral and one adjacent side, shall be occupied on any given pole.

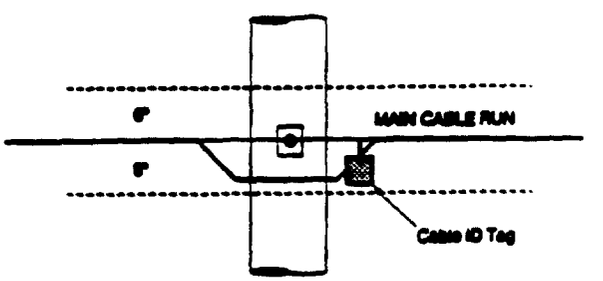


Fig. 4

CABLE IDENTIFICATION TAG

1. Each separate CATV cable attachment shall be identified in accordance with the FUSC's Foreign Attachment Guidelines specifications.
2. Each CATV company shall register their unique Cable ID tag with the FUCC's Joint Use Subcommittee.
3. A Cable ID Tag will be installed at every 1st, 5th and last mainline pole attachment.
4. Cable ID Tag can be attached either to the cable or the attachment hardware.

EXHIBIT B
NOTIFICATION OF ATTACHMENT/REMOVAL

Attachment ☐

Removal ☐

_____

CATV Corporation/Partnership Name

In accordance with the terms of CATV Agreement dated _____, 19 ___ please (add to) or (delete from) your records the following poles to which (attachments) or (removals) were made during this calendar month.

Location

City _____, County _____, Florida

Pole Numbers	Date Added	Date Deleted	Permit Number	Pole Locations

Total Attachment this Notice:

Added _____

Removed _____

Total Previous Attachments _____

Total Attachments To Date _____

Licensee: _____

By: _____

Name (Print)

_____

Signature

_____

Title

Florida Power & Light Company

By: _____

Title: _____

Date Recieved _____, 19____

Notice Number: _____

EXHIBIT C

C. SELECTION OF POLE TYPE AND CLASS

1. Wood Vs. Concrete Pole

Concrete poles are considerably more expensive than wood poles; consequently, their use should be limited to situations where their extra cost can be justified. They should be used in areas where specified by management, preferably where the chance of future relocation is slight. They may also be used where future wood pole replacement costs would be extremely high, e.g., duct system riser poles, three phase deadends or corner poles.

2. Torsional Loading

In designing deadend or corner poles using crossarms, it is important to balance tensions or provide arm guys so that the pole is not subjected to torsional loads. Concrete poles do not resist torsion very well, especially at the top of a pole; therefore such loads can cause failure. Wood poles, though tolerant of temporary torsional loads, will over a period of time become permanently deformed.

To provide adequate strength to resist sudden and/or accidental torsional loading of concrete poles, a class 3H pole should be used at all new two or three phase deadends using a crossarm regardless of conductor size. Two and three phase crossarm lateral pulloff deadends do not require a H pole because of the added strength at the buck level due to increased pole cross-section area and reinforcing.

3. Wind Loading

Wind loading is applied at right angles to the pole line. It consists of the moment due to the pressure of the wind upon the pole itself, plus the moment due to wind acting upon the conductors (one-half span in each direction from the pole), plus any moment due to wind acting upon transformers or capacitor banks installed on the pole.

a. Wind Loading Upon Pole

The wind forces upon a pole are considered to be directed against the "projected area" of the pole. This is a trapezoid whose area is

$$A = H_1 \left(\frac{a+b}{2}\right)$$

where H_1 = the pole's height above the ground line.
For a wood pole, a = diameter at pole top
b = diameter at ground line.
For a concrete pole, a and b are the widths of one face at top and ground line respectively.

EXHIBIT C

(pages numbered 7 of 59 through 34 of 59)

Wind speed in miles per hour is converted to wind loading (pressure in lbs. per square foot) according to National Electrical Safety Code Rule 250C; typical values are tabulated in NESC Table 250-2. The total wind force upon the pole is the loading per square foot, times the area in square feet, times a "shape factor" as defined in NESC Rules 250C and 252B2. For a cylindrical pole such as our wood poles, the shape factor is 1.0; for a square pole such as our concrete poles, the shape factor is 1.6.

In calculating the wind-loading moment, we must identify a point at which the wind force may be considered to be concentrated. This point is the center of area, or the "center of gravity" of the trapezoidal projected area. Its location is calculated according to the formula

$$H_{CA} = \frac{H_1 (b + 2a)}{3 (b + a)}$$

where H_{CA} is the height above ground line of the center of area, the other letters having the same meanings as above. As an approximation, for wood distribution poles, $H_{CA} \cong 0.46 \times H_1$. For square concrete distribution poles, $H_{CA} \cong 0.45\ H_1$.

The moment arm through which the wind-loading moment acts is the distance from the center of area to the fixity point, or $H_{CA} + D_F$, as shown in Figure 1. (See Page 4 for an explanation of the fixity point.)

Example of Calculation for Wood Pole: Calculate the wind load on a 45'/2 pole set 7 ft. deep.

Projected Area, $A = H_1$ (in ft.) $\times \frac{1 \text{ ft.}}{12 \text{ in.}} \times \left[\frac{a + b \text{ (inches)}}{2}\right]$

From TABLE G, Page 48, for a 45'/2 pole, $a = \frac{25"}{\pi} = 7.96"$

At 38 ft. from pole top, $b = \frac{48.1"}{\pi} = 12.76"$

So $A = \frac{38}{12} \times \left[\frac{7.96 + 12.76}{2}\right] = 32.81$ sq. ft.

Height of center of area, $H_{CA} = \frac{H_1 (b + 2a)}{3 (b + a)} = \frac{38 (12.76 + 15.92)}{3 (12.76 + 7.96)}$

$H_{CA} = 17.53$ ft. above ground.

Moment Arm = $H_{CA} + D_F = 17.53 + \frac{7}{3} = 19.86$ ft.

Wind Load M_p = Wind Pressure x Safety Factor x Projected Area x Moment Arm.

$M_p = 9$ p.s.f. x 4 x 32.81 sq. ft. x 19.86 ft. = 23,458 ft. lbs.

The strength of this pole, as calculated on Page 4, is 145,561 ft.-lbs. Subtracting the wind load from this leaves

$$145{,}561 - 23{,}458 = 122{,}103 \text{ ft.-lbs.}$$

Dividing this by a safety factor of 4, we have 30,526 ft.-lbs. as the initial allowable moment available for conductors and other attachments.

The NESC permits the safety factor to be reduced to 2.67 for existing installations when the pole is nearing replacement age (see NESC Table 261-3). However, this does not take into account the reduced strength of the pole due to deterioration.

Example of Calculation for Concrete Pole: Calculate the wind load on a 45' HH pole.

Area of pole face = $A = H_1 \times \frac{1}{12} \times \left[\frac{a+b}{2}\right] = 38' \times \frac{1}{12} \times \left[\frac{9.0 + 15.33}{2}\right]$

$$A = \frac{38}{12} \times \frac{24.33}{2} = 38.52 \text{ sq. ft.}$$

Height of Center of Area $H_{CA} = \frac{H_1 (b + 2a)}{3 (b + a)} = \frac{38 \times 33.33}{3 \times 24.33} = 17.35$ ft.

Moment arm $= H_{CA} + D_P = 17.35' + \frac{7}{3} = 19.69$ ft.

Wind Load M_p = Wind Pressure x Area x Moment Arm x Shape Factor x Safety Factor

= 9 p.s.f. x 38.52 sq. ft. x 19.69 ft. x 1.6 x 2.5

= 27,304 ft.-lbs.

The ultimate strength of this pole was previously calculated to be 155,400 ft.-lbs. Subtracting the wind load and dividing the result by a safety factor of 2.5, we have $\frac{155{,}400 - 27{,}304}{2.5} = 51{,}238$ ft.-lb. as the allowable moment available for conductors and other attachments.

b. Wind Loading Upon Conductors and Other Pole Attachments

The wind-load moment of each conductor is calculated in the following steps:

1) Obtain from TABLE A-1 the wind force on the conductor per foot of span. (Tables begin at page 30, this section.)

2) Multiply by span length (one-half span in each direction from pole).

3) Multiply by the conductor attachment height above the fixity point.

Or, M_C = (Wind force per foot) x (span length) x (attachment height + $\frac{1}{3}$ setting depth)

This calculation is repeated for each FPL, telephone, and CATV conductor or cable to be attached.

The moment for each item of equipment is then calculated, using the appropriate resisting force from TABLE A-2, multiplied by its attachment height above the fixity point.

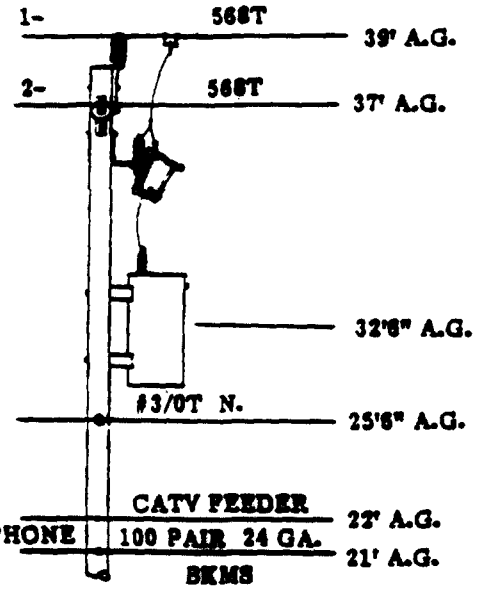
All conductor and equipment moments are added together, and the total is compared with the available moments for each height and class of pole from TABLE A-3. Note that no safety factor need be considered in the conductor and equipment calculations, since the appropriate safety factors have already been factored into TABLE A-3.

The tables and information shown on TABLES A-1, A-2, A-3, and B may be used to determine the class or type of pole required for any proposed installation. Some additional factors which should be considered, however, are:

- Where a guyed lateral pulls off another line, the pole is, in effect, storm guyed and one class lighter pole may be used.
- Calculated transverse loads (expect when crossing over a railroad or a major communication facility) shall be based on the average span length of a uniform section of line, providing the average span length used is not less than 75% of actual average of the two spans adjacent to the pole being considered.
- A pole not individually meeting the transverse strength requirements will be permitted when reinforced by a stronger pole on each side, provided the average strength for the three poles meets the transverse requirement and the weak pole has not less than 75% of the requirement.

- A dead-end pole has only half the transverse load that it would have if the line continued on.
- Intermediate poles set in line may be lighter than the existing poles if no conductors are added.

Following are examples of typical wind-loading calculations.



WIND LOADING CALCULATIONS: EXAMPLE A

Determine class of 45' pole required for 3-556 kcmil ACAR primary,

1 #3/0 AAAC neutral,
1 - CATV feeder cable
1 - 100 pair 24 ga. BKMS telephone cable.

Proposed average span length is 175 ft. A 50 kVA transformer is to be installed.

Calculate moment for each conductor and for transformer. Total all moments.

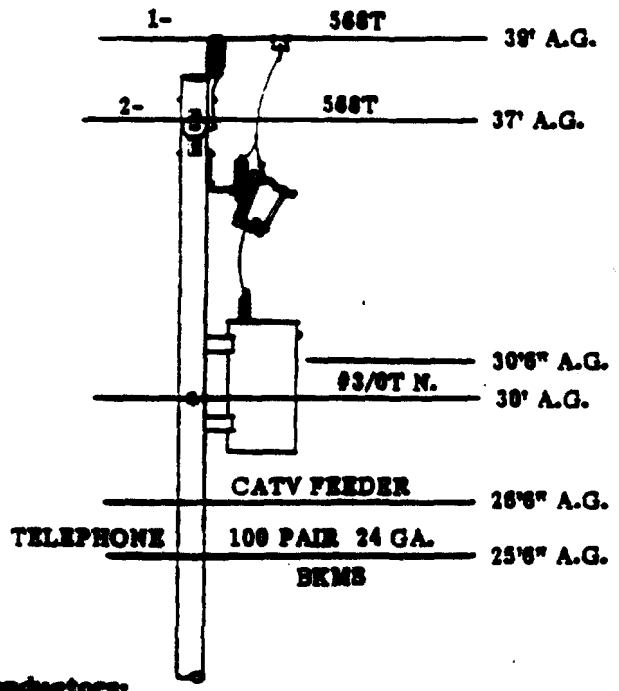
Conductors:

No. of Conductors		Wind Load Per Foot (TABLE A-1)		Span Length		[Height Above Ground + Setting Depth / 3]		
1	x	.659	x	175'	x	(39' + 2.33')	=	4,766.4 ft.-lb.
2	x	.659	x	175'	x	(37' + 2.33')	=	9,071.5 ft.-lb.
1	x	.377	x	175'	x	(25.5' + 2.33')	=	1,836.1 ft.-lb.
1	x	.56	x	175'	x	(22' + 2.33')	=	2,384.3 ft.-lb.
1	x	.84	x	175'	x	(21' + 2.33')	=	3,429.5 ft.-lb.

Transformer:

Wind Load from TABLE A-2		[Height Above Ground + Setting Depth / 3]		
49	x	(32.5' + 2.33')	=	1,706.7 ft.-lb.
		Total of moments		23,194.5 ft.-lb.

From TABLE A-3, the initial allowable moment of a 45'/3 pole is 23,561 ft.-lbs. The 45'/3 pole is adequate for this application.



WIND LOADING CALCULATIONS: EXAMPLE B

Determine maximum average span for a 45' class 2 wood pole with 3-568 kcmil ACAR primary,

1 #3/0 AAAC neutral,
50 kVA transformer,
1 - CATV feeder cable,
1 - 100 pair 24 ga. BKMS telephone cable.

Conductors:

$$\text{No. of Conductors} \times \text{Wind Load Per Foot (TABLE A-1)} \times \left[\text{Height Above Ground} + \frac{\text{Setting Depth}}{3}\right]$$

1	x	.659	x	(39'	+	2.33')	=	27.24 ft.-lb. per foot of span
2	x	.659	x	(37'	+	2.33')	=	51.84 ft.-lb. per foot of span
1	x	.377	x	(30'	+	2.33')	=	12.19 ft.-lb. per foot of span
1	x	.56	x	(26.5'	+	2.33')	=	16.14 ft.-lb. per foot of span
1	x	.84	x	(26.5'	+	2.33')	=	22.38 ft.-lb. per foot of span

Total conductor moment per foot of span = 130.79 ft.-lbs.

Transformer:

$$\text{Wind Load from TABLE A-2} \times \left[\text{Height Above Ground} + \frac{\text{Setting Depth}}{3}\right]$$

49	x	(30.5'	+	2.33')	=	1,666.7 ft.-lb.

Subtract the transformer wind load from the initial allowable moment of a 45'/2 pole (from TABLE A-3), which is 30,526.

30,526 - 1,666.7 = 28,917.3 ft.-lb., permissible conductor moment.

Maximum average span $= \frac{28,917.3}{130.79} = 221$ **ft.**