Committee on Utilities & Telecommunications

Thursday, January 26, 2006
9:30 am – 12:00 pm
404 HOB

Allan G. Bense
Speaker

Ken Littlefield
Chair

Florida House of Representatives

Commerce Council
Utilities & Telecommunications Committee

Kenneth W. "Ken" Littlefield
Committee Chairman

Bob "Coach" Henriquez
Committee Vice-Chairman

Agenda

Utilities and Telecommunications Committee
January 26, 2006
9:30 a.m. – 12:00 p.m. 404 House Office Building

I. Welcome and Opening Remarks by the Chairman

II. Roll Call

III. Public Service Commission - Power Point Presentation – Review of Electric Distribution Reliability (Bill McNulty)

IV. Gulf Power - Power Point Presentation – Electric Infrastructure Subjects (Sharon Pinkerton)

V. Gulf Power - Power Point Presentation – Overview of the Distribution Substation (Bill Pope)

VI. League of Cities – Substation Maintenance (Rebecca O'Hara)

VII. HB 431: Local Government Land Development Regulation Workshop (Littlefield)

VIII. Closing Remarks by the Chairman

IX. Adjourn

Committee Meeting Notice

HOUSE OF REPRESENTATIVES

Speaker Allan G. Bense

Utilities & Telecommunications Committee

Start Date and Time:	Thursday, January 26, 2006 09:30 am
End Date and Time:	Thursday, January 26, 2006 12:00 pm
Location:	404 HOB
Duration:	2.50 hrs

Workshop on the following:

HB 431 Local Government Land Development Regulation by Littlefield

PSC Presentation on Service Reliability

NOTICE FINALIZED on 01/13/2006 11:04 by Stewart.Vallie

PSC Review
Elec. Distr. Reliab.

FPSC Review of Electric Distribution Reliability

Presentation to Florida House Committee on Utilities and Telecommunications

January 26, 2006

Overview

- Today's presentation is based on the FPSC's ongoing review of the Florida's investor-owned electric utilities' (IOUs) distribution service reliability performance

- Rule 25-6.0455, F.A.C., requires electric IOU's to file annual distribution reliability reports by March 1 of each year

- FPSC review based on IOU's annual reports, company responses to staff data requests, staff audits, and FPSC complaint data

Measuring the Duration Of Sustained Service Interruptions

- *System Average Interruption Duration Index* (SAIDI)
  The average minutes of service interruption per customer served.

- *Customer Average Interruption Duration Index* (CAIDI)
  The average time to restore service to interrupted customers.

- *Average Duration of an Outage Event (L-Bar)*
  The total minutes of outages divided by the total number of outages.

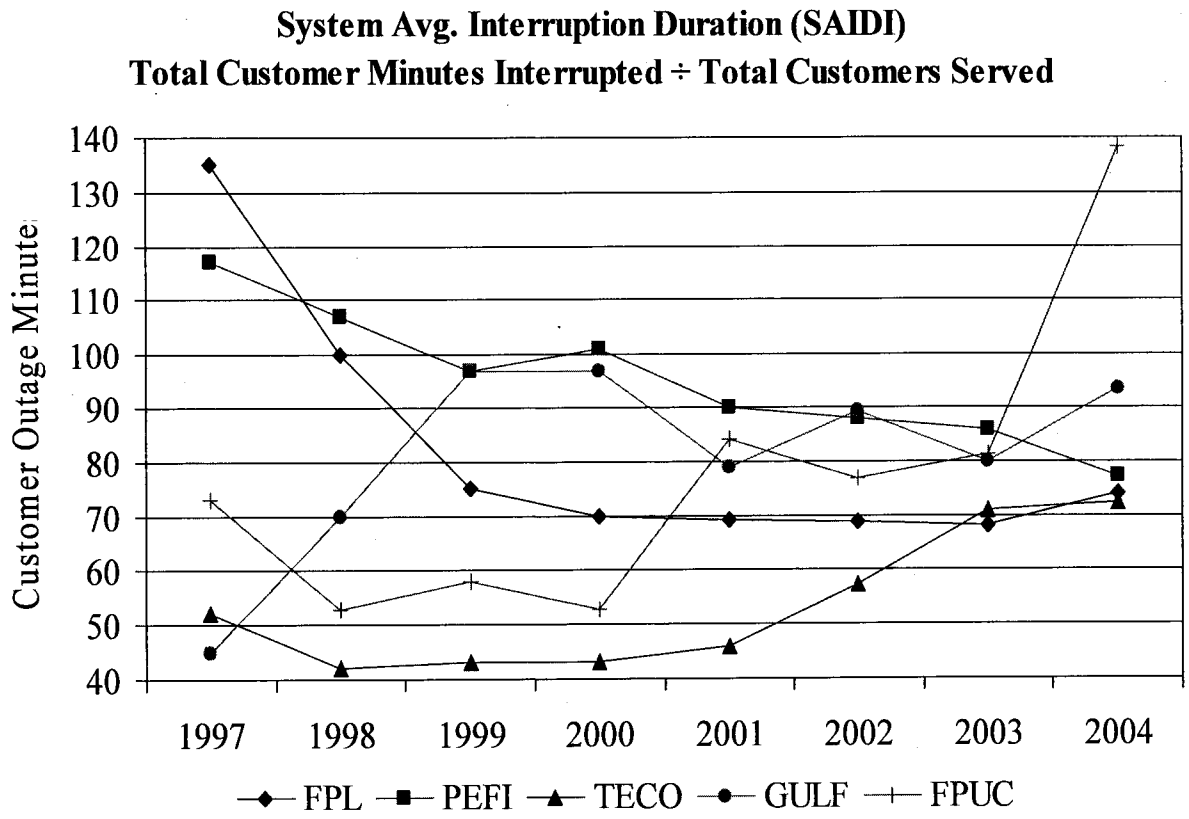
Measuring the Frequency of Service Interruptions

- *System Average Interruption Frequency Index* (SAIFI)
  The average number of service interruptions per customer served.

- *Customers Experiencing More Than Five Interruptions* (CEMI5)
  The percent of customers that experienced more than five service interruptions.

- *Momentary Average Interruption Event Frequency Index* (MAIFIe)
  The average number of momentary interruptions on primary feeders.

SAIDI Trends, Florida's Electric IOUs



Focus Areas in the FPSC's Review

- Vegetation Management Practices
- Compliance with Voltage Standards
- Subregion Performance
- Customer Complaints
- Quality of Service Management Audits

Vegetation Management Practices

- FPL, PEFI, and Gulf retained cycle trimming, but prioritize trimming activities using reliability data
- TECO replaced cycle trimming with "reliability based trimming"
- FPUC adopted a five year trim cycle

Compliance with Voltage Standards

- By Rule 25-6.046, F.A.C., voltage must not exceed 5.0% above or below standard voltage for residential service, 7.5% for industrial service
- Staff audit recommended a rule change to require utilities to conduct voltage compliance sampling
- Upon review, Staff found design and operation standards appear adequate and ultimately proposed no rule change

Subregion Performance

- Staff focus on management regions with lowest performance (FPL's Treasure Coast, PEFI's North Coast, TECO's Dade City, FPUC's Northwest)
- Long rural feeders often a contributing factor to lower performance
- Utilities plan to add feeders, add feeder ties, and evaluate devices and reliability data.

FPSC Customer Complaints

- Complaints can be an indicator of distribution service quality
- Low number of distribution service complaints filed with the FPSC; customers direct a majority of complaints to the utilities.
- Analyze complaint trends over time
- Analyze inter-utility comparisons

Quality of Service Management Audits

- 2004 - Staff initiated audits of each IOU's distribution and transmission management practices; designed to build on the 1997 audits

- 2005 - TECO and FPUC audits completed and partial audits of FPL and PEFI completed (vegetation management, pole inspections, lightning protection)

- 2006 – Gulf audit, remainder of FPL and PEFI audits scheduled for completion

Recent Developments in Electric Distribution Service Review

- In 2004, outage minutes excluded from large utilities' reliability indices dwarf non-hurricane outage minutes (84 percent to 98 percent of total outage minutes were related to hurricanes and, in accordance with rule, were excluded in calculation of indices)
- Same result expected for 2005 for FPL and Gulf
- Weather experts expect future hurricane seasons to be more active than the 1966 through 2003 hurricane seasons.
- FPSC is considering changes to reporting requirements via rule development; changes would require utilities to report indices both with and without exclusion of outage minutes.
- Robustness of the electric distribution and transmission system currently under PSC review in the wake of the 2004 and 2005 hurricane seasons

Questions?

Gulf Power
Elec. Infrastruc. Subj.

Electric Infrastructure Subjects

Gulf Power Company

January 26, 2006

GULF POWER
A SOUTHERN COMPANY

2004 – 2005 Hurricane Season
Who We Are

- Our size
- Our location and geography
- Our system

GULF POWER
A SOUTHERN COMPANY

2004 – 2005 Hurricane Season What We Experienced

- Damage to our system
  - Transmission
  - Substation
  - Distribution
    - Poles – 1.6% with Ivan
    - Poles – 0.3% with Dennis

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2004 – 2005 Hurricane Season
What We Experienced

- Damage to our system by
  - Wind
  - Storm Surge
  - Trees
  - Debris
  - Debris Removers
  - Customers

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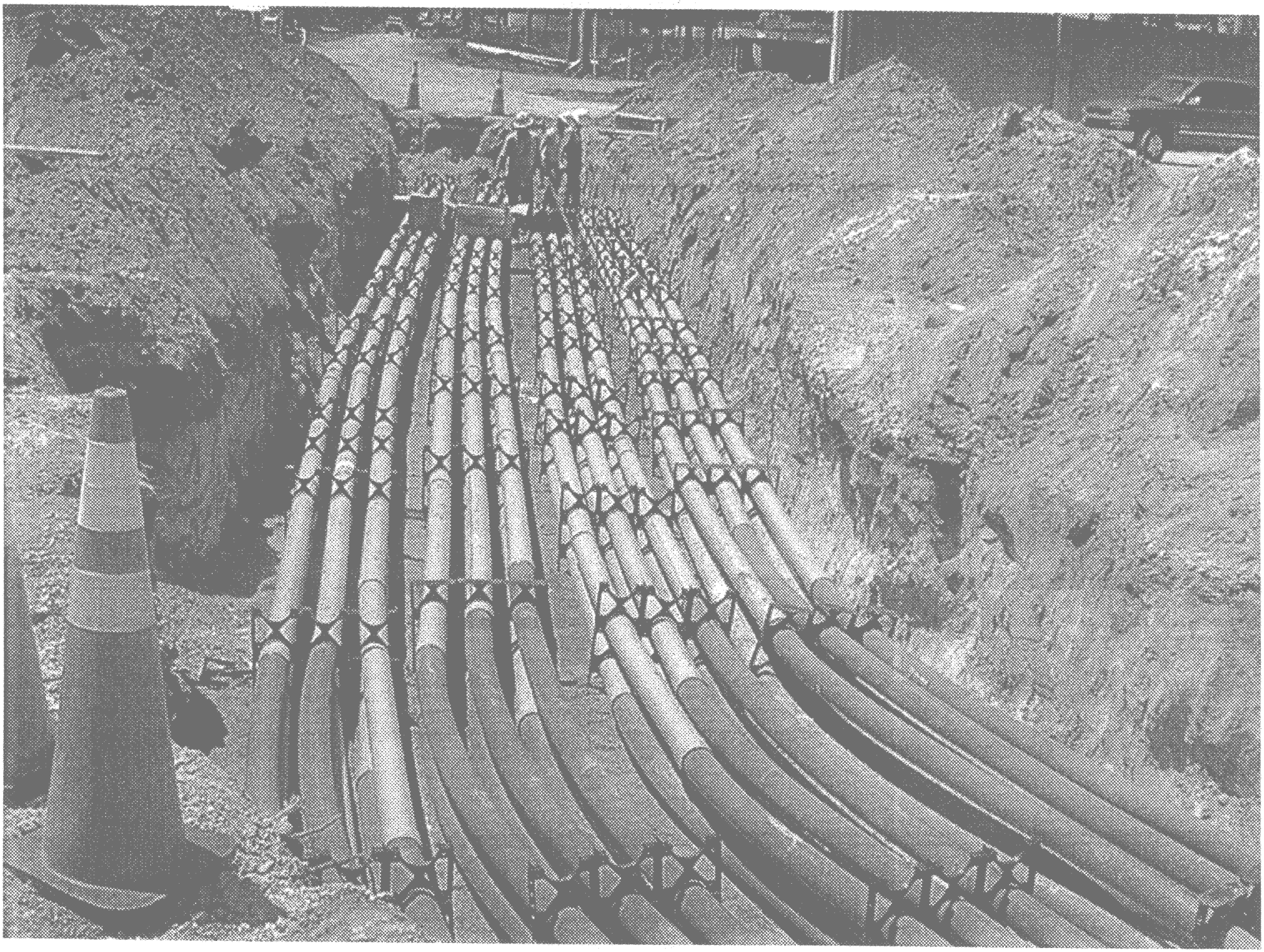
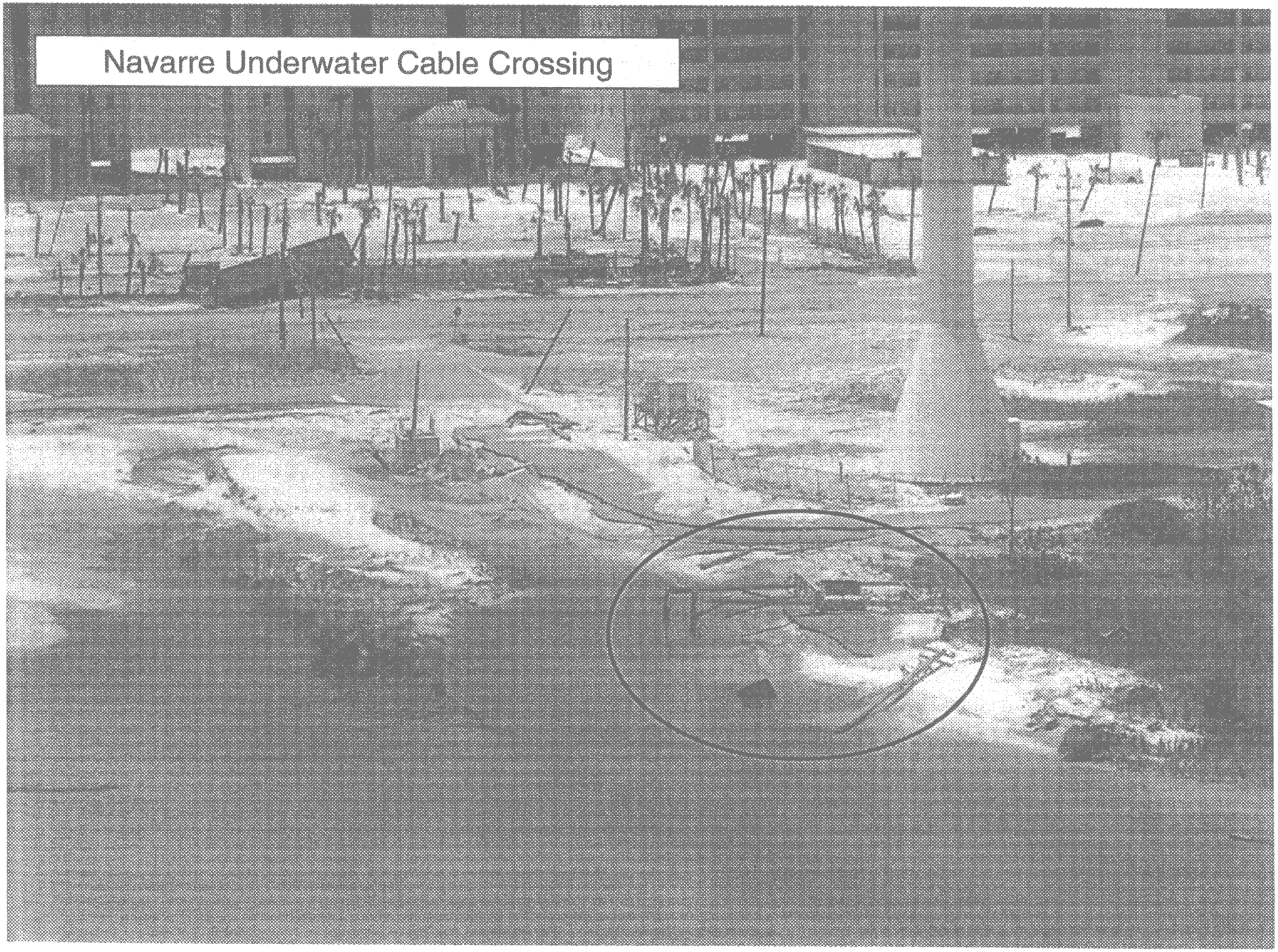
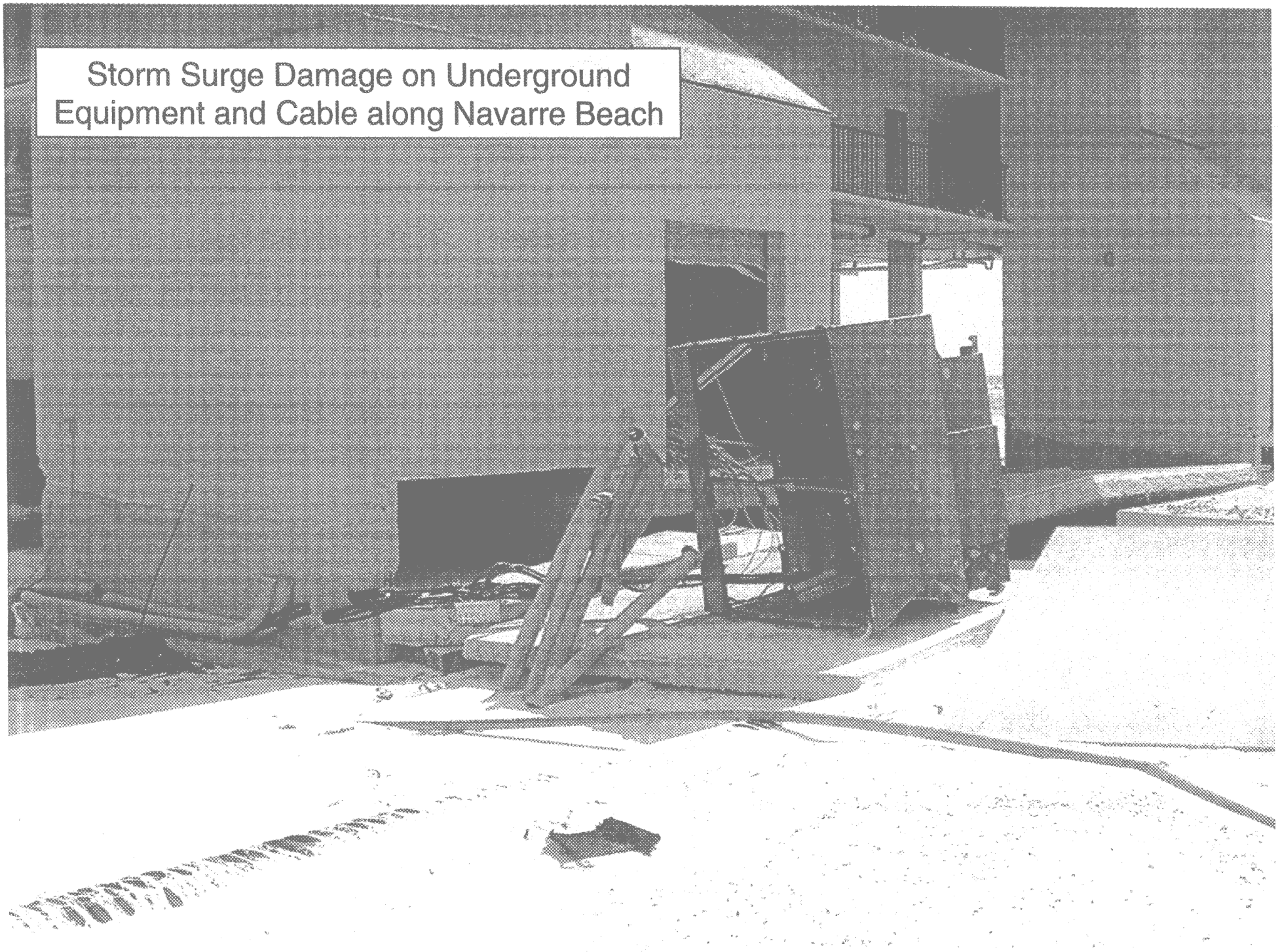
Underground Distribution

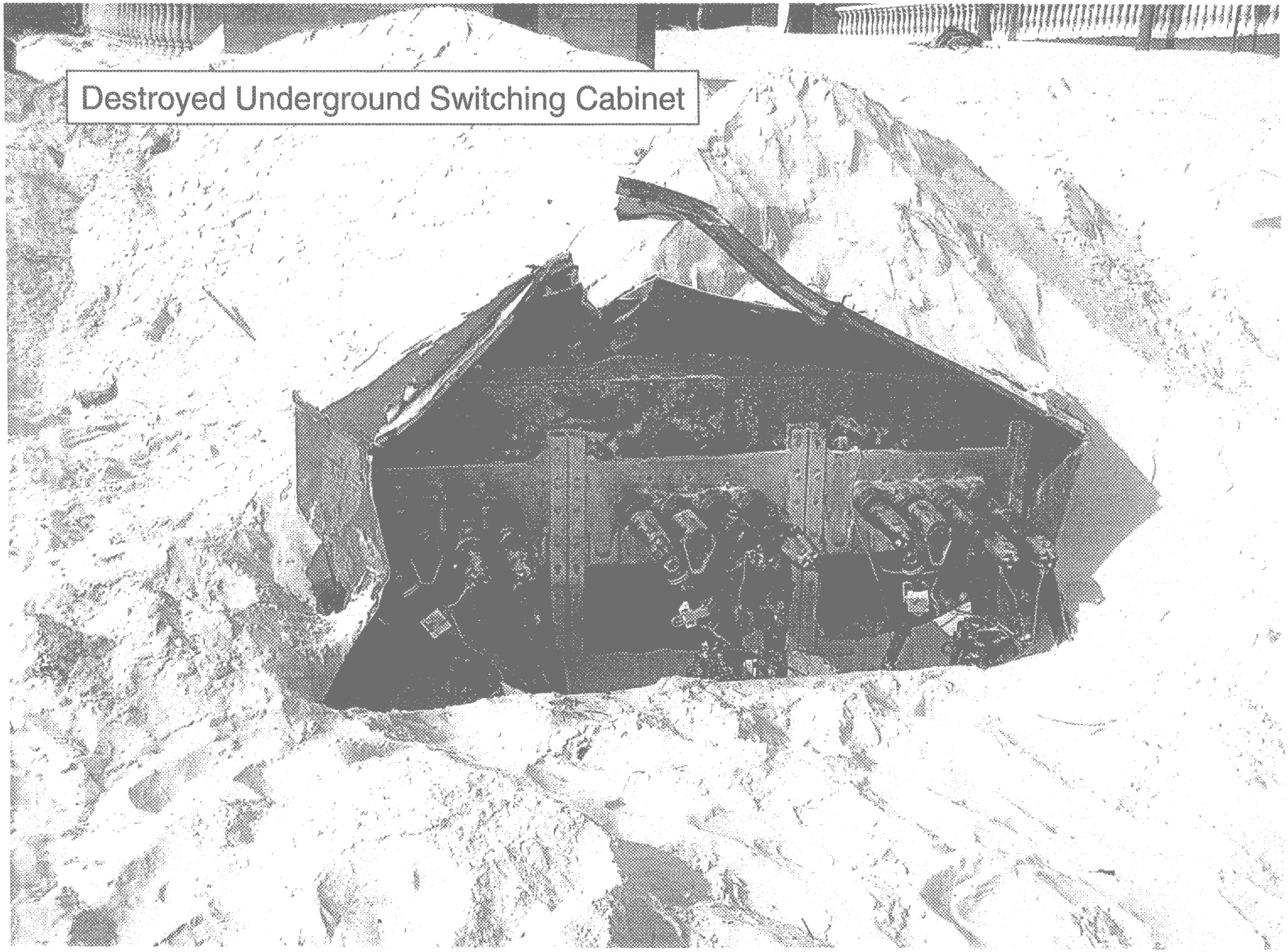
- Position on underground
- Pros and cons
- Communications with customers
  - Brochures
  - Conversion department
- Underground damage
  - Inland – no significant damage
  - Coastal – catastrophic damage

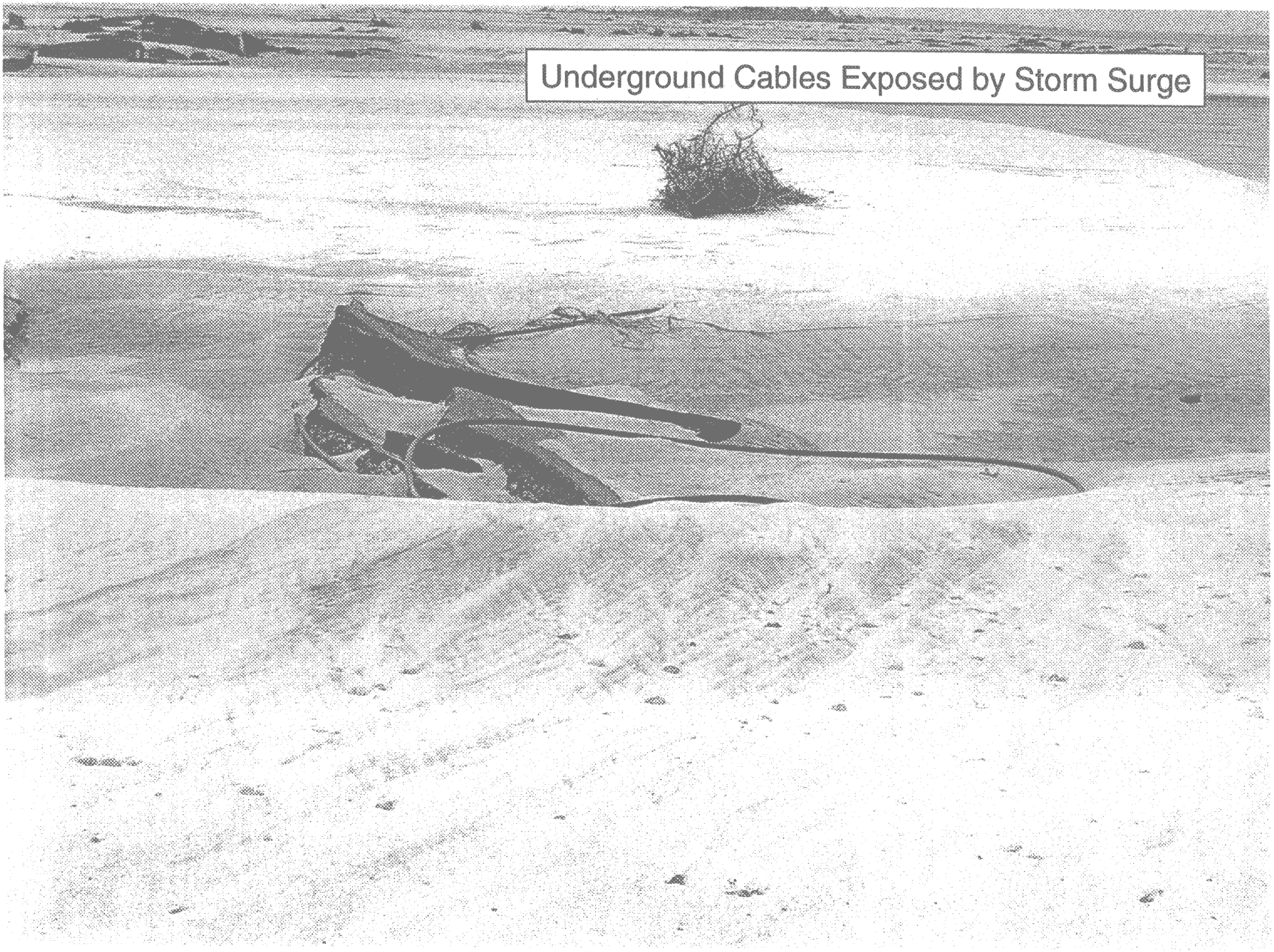
GULF POWER
A SOUTHERN COMPANY

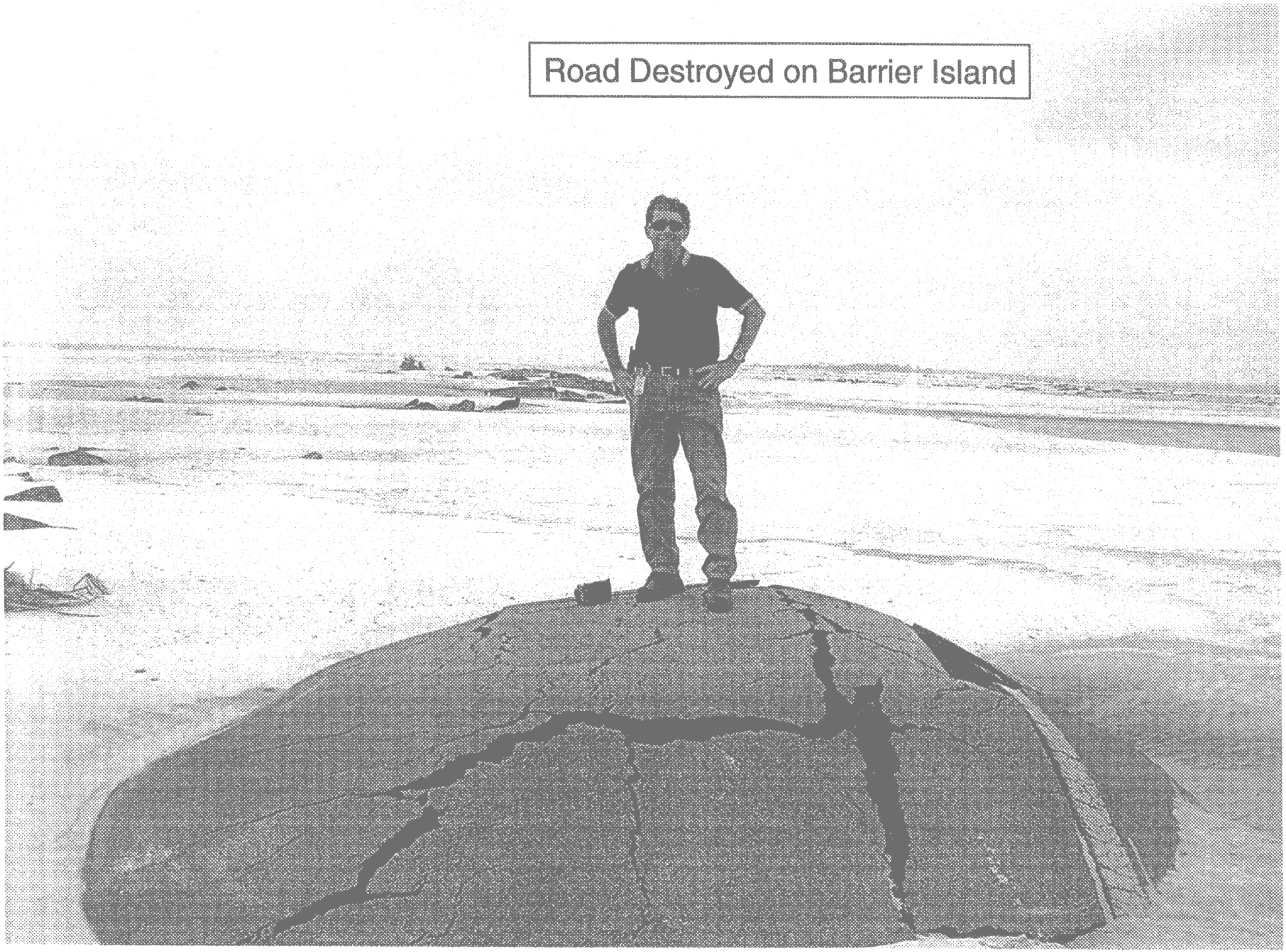


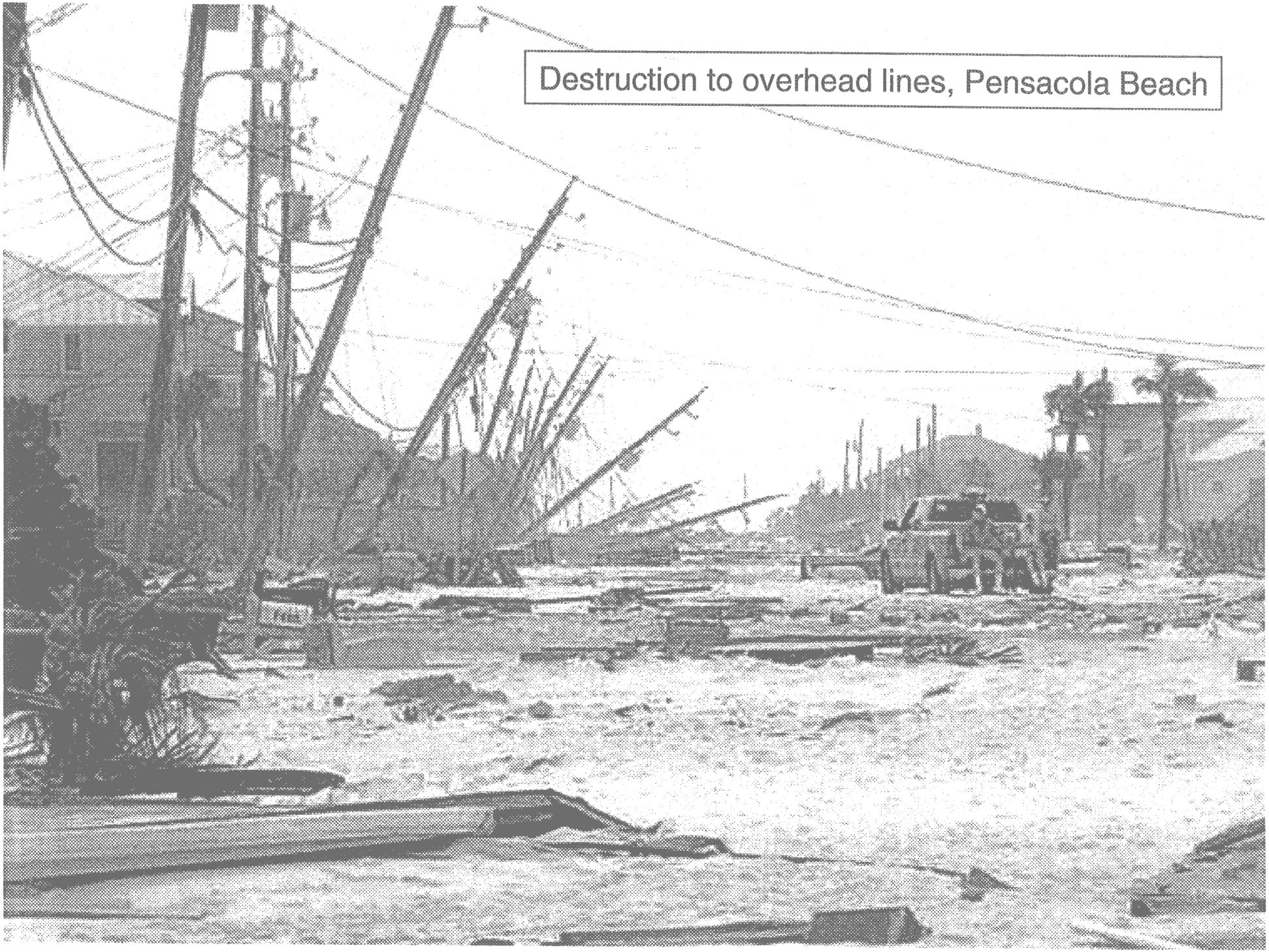

Navarre Underwater Cable Crossing


Storm Surge Damage on Underground
Equipment and Cable along Navarre Beach


Destroyed Underground Switching Cabinet

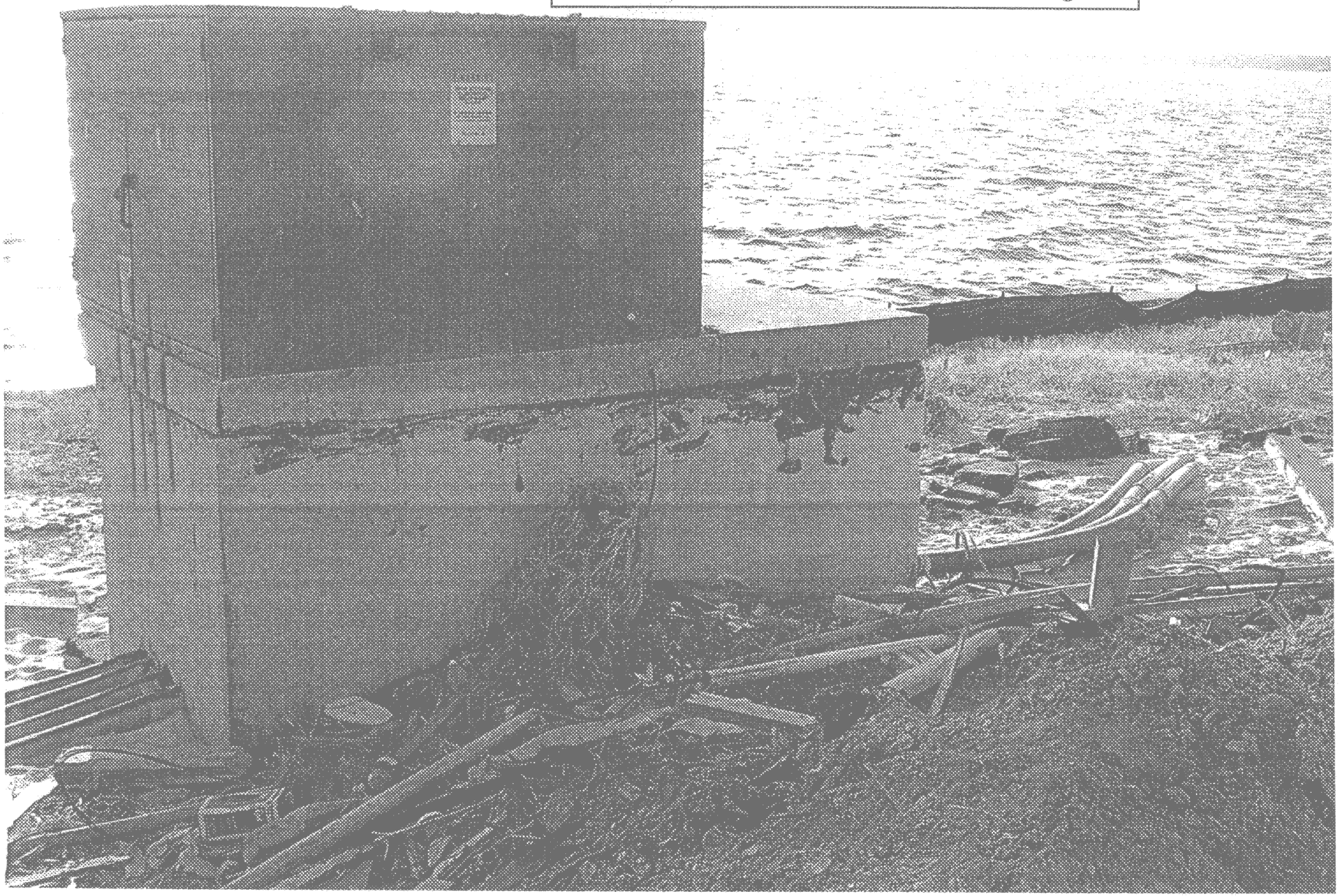

Underground Cables Exposed by Storm Surge


Road Destroyed on Barrier Island



Destruction to overhead lines, Pensacola Beach

Erosion around Padmount Switchgear



Customer Debris Hampers Restoration Efforts

Storm Surge Damage

Vegetation Management

- Work performed by contractors
- Clearance at the time of pruning based on NESC requirements
- Program performance indicators
  - Vegetation SAIDI
  - Customer satisfaction - justified PSC complaints on tree trimming
  - Public Safety – number of documented accidents related to vegetation

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Vegetation Management (cont.)

- Program utilizes a mix of maintenance pruning on entire circuits, targeted spot pruning on portions of circuits, and spot pruning in response to customer call ins.
- Annual work plans developed from Forestry Services field inspection data, outage data, customer call ins, and field engineering reports
- 100% of transmission field inspected each year – all hazardous situations corrected (i.e., leaning or dead trees)

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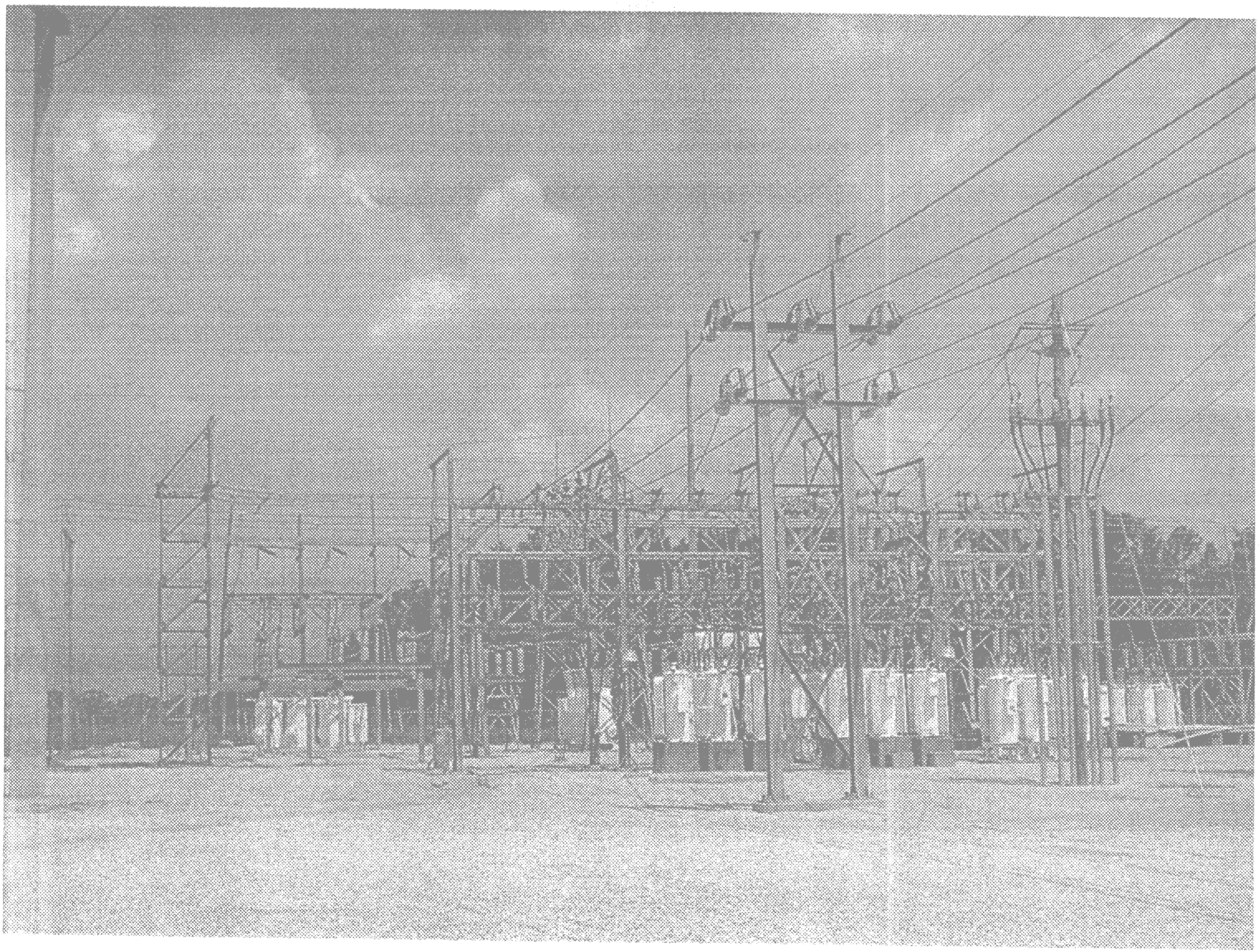
A SOUTHERN COMPANY

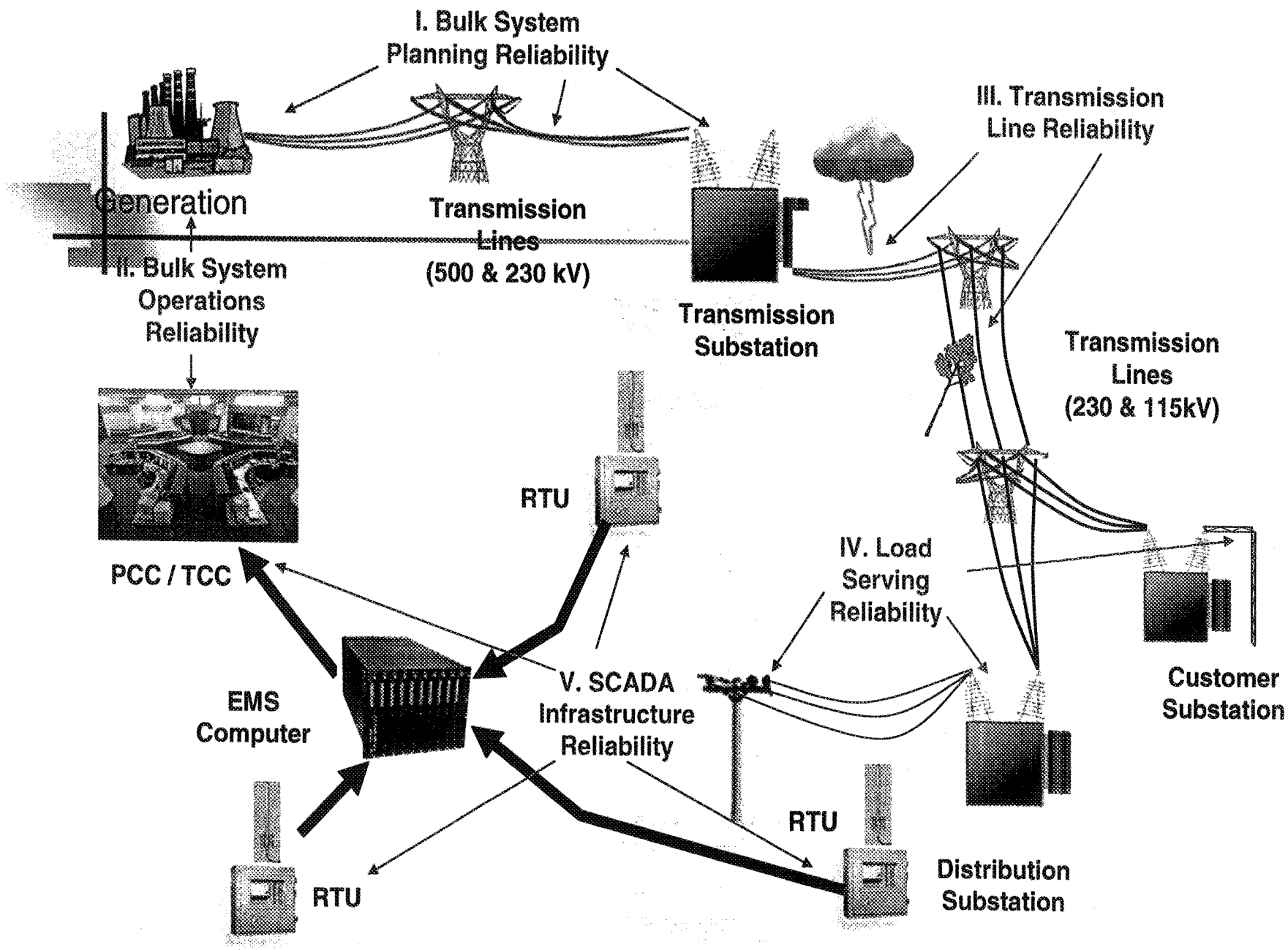
Gulf Power Overview
Distr. Substation

AN OVERVIEW OF THE DISTRIBUTION SUBSTATION

WHAT IS A SUBSTATION?

- An arrangement of high voltage breakers, switches, transformers, buswork, and protective devices used to tap the transmission network and convert the electrical energy to a suitable form for distribution to residential, commercial, and industrial customers.




I. Bulk System
Planning Reliability
Generation
Transmission
Lines
(500 & 230 kV)
II. Bulk System
Operations
Reliability
Transmission
Substation
III. Transmission
Line Reliability
Transmission
Lines
(230 & 115kV)
PCC / TCC
RTU
IV. Load
Serving
Reliability
Customer
Substation
EMS
Computer
V. SCADA
Infrastructure
Reliability
RTU
RTU
Distribution
Substation

WHY ARE DISTRIBUTION SUBSTATIONS NEEDED?

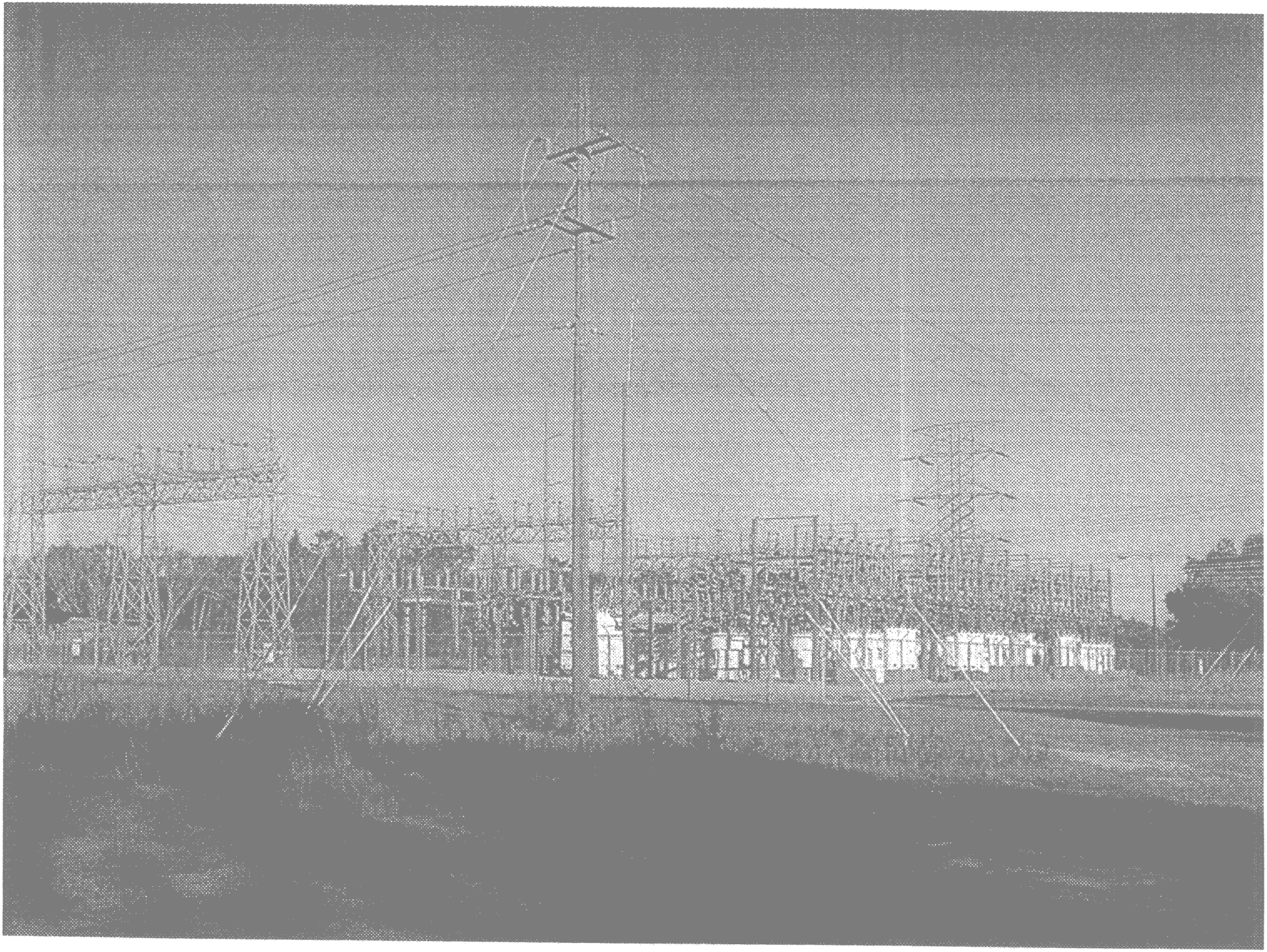
- ADEQUACY
- RELIABILITY
- EFFICIENCY

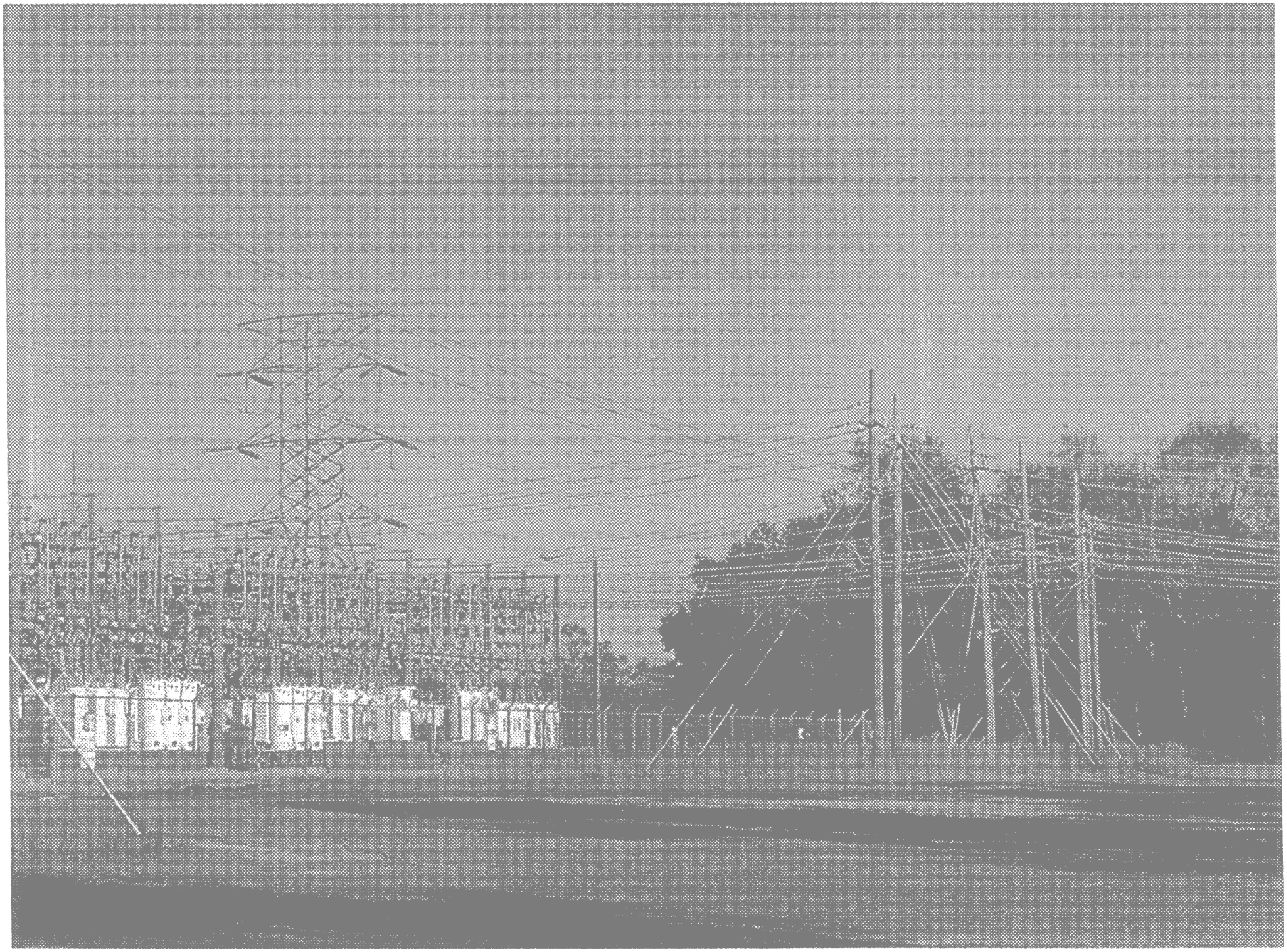
BASIC PHILOSOPHY OF POWER DELIVERY

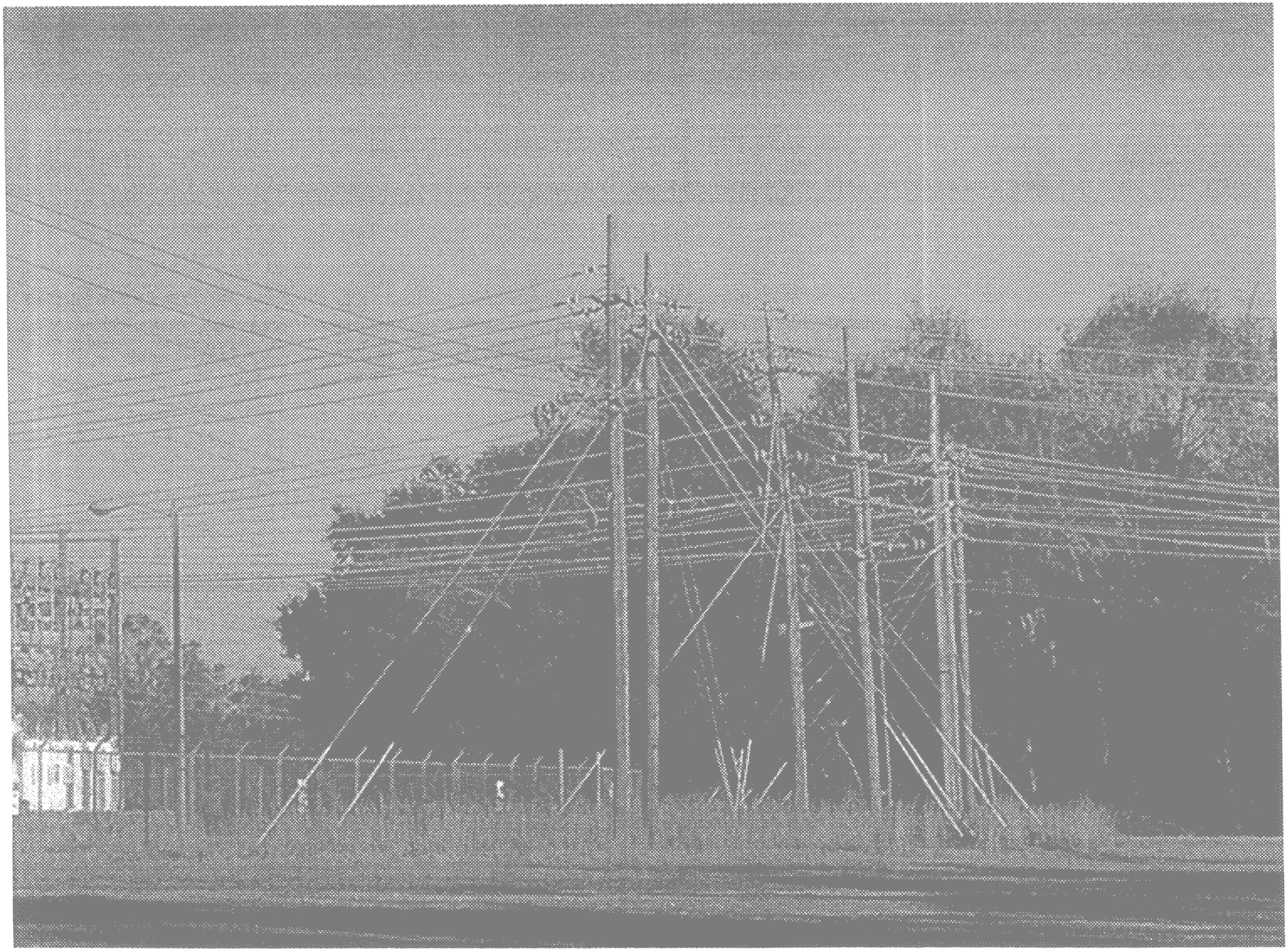
- GET YOUR STRONGEST POWER SOURCES AS CLOSE TO THE DELIVERY POINT AS PARACTICABLE.

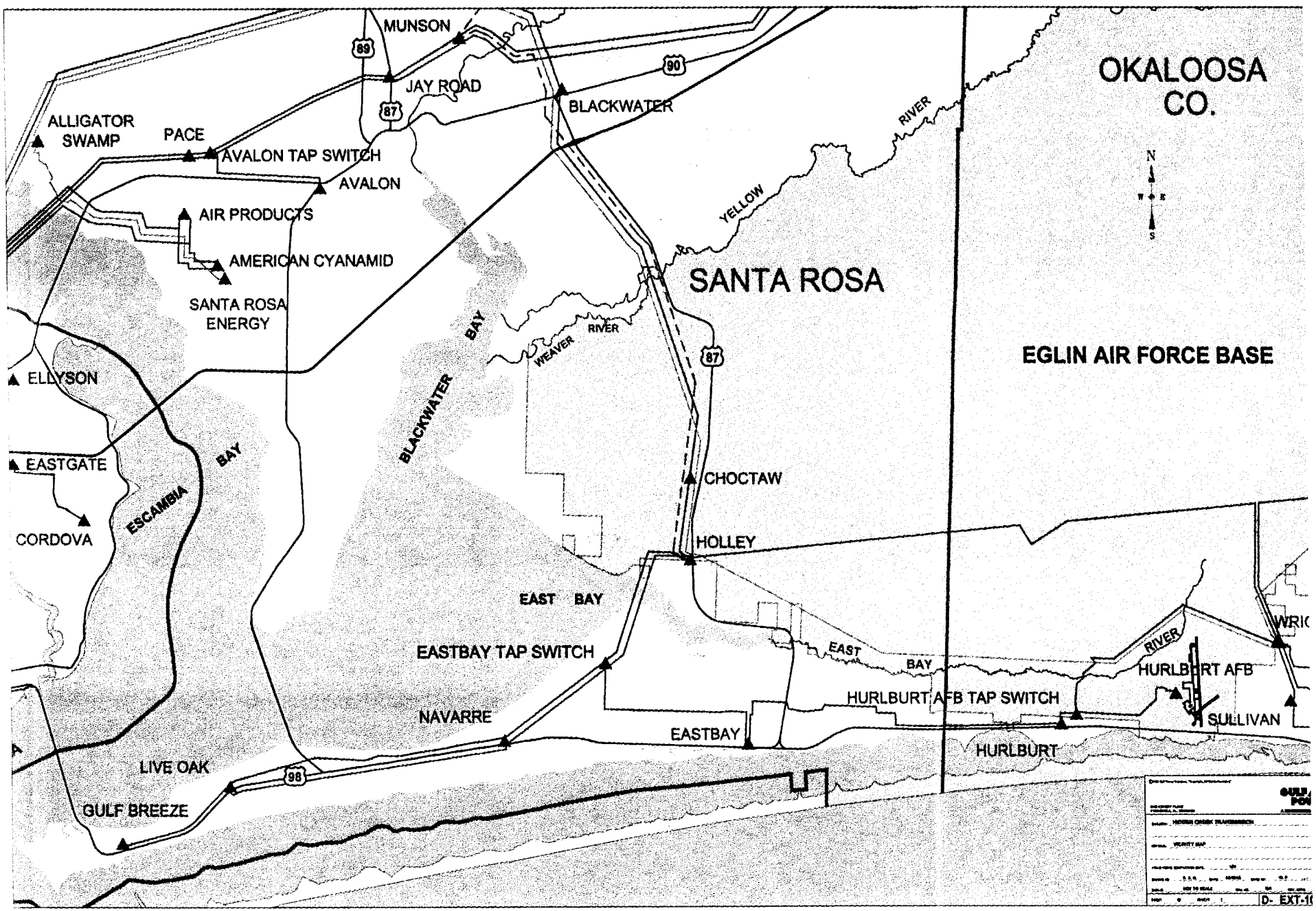
WHAT ARE SOME OF THE DISTRIBUTION SYSTEM LIMITS?

- LINE CAPACITIES
- VOLTAGE DROP
- TRANSFORMER CAPACITIES








MUNSON
89
90
JAY ROAD
87
BLACKWATER
ALLIGATOR SWAMP
PACE
AVALON TAP SWITCH
AVALON
AIR PRODUCTS
AMERICAN CYANAMID
SANTA ROSA ENERGY
ELLYSON
EASTGATE
CORDOVA
ESCAMBIA BAY
BLACKWATER BAY
WEAVER RIVER
YELLOW RIVER
SANTA ROSA
OKALOOSA CO.
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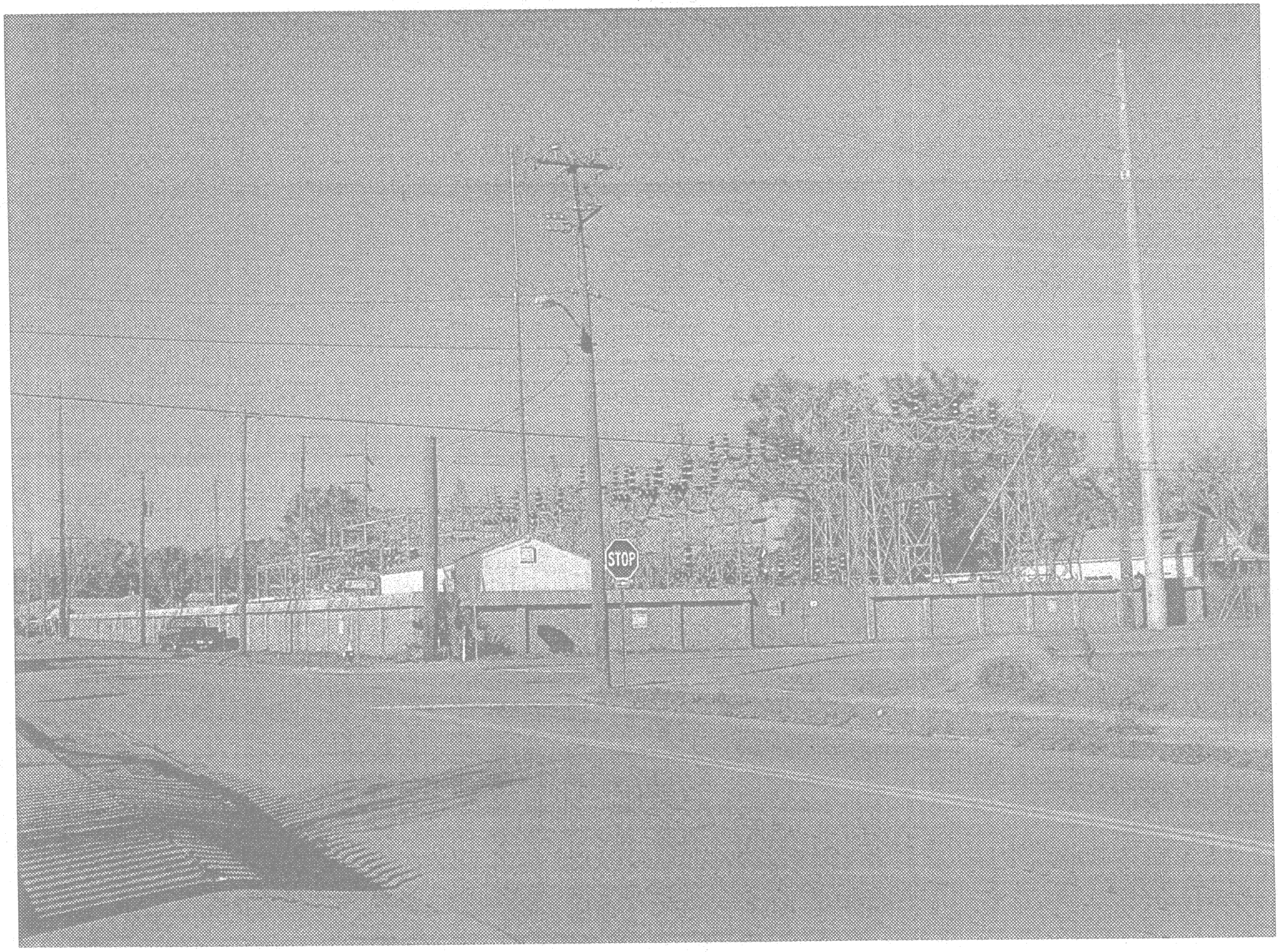
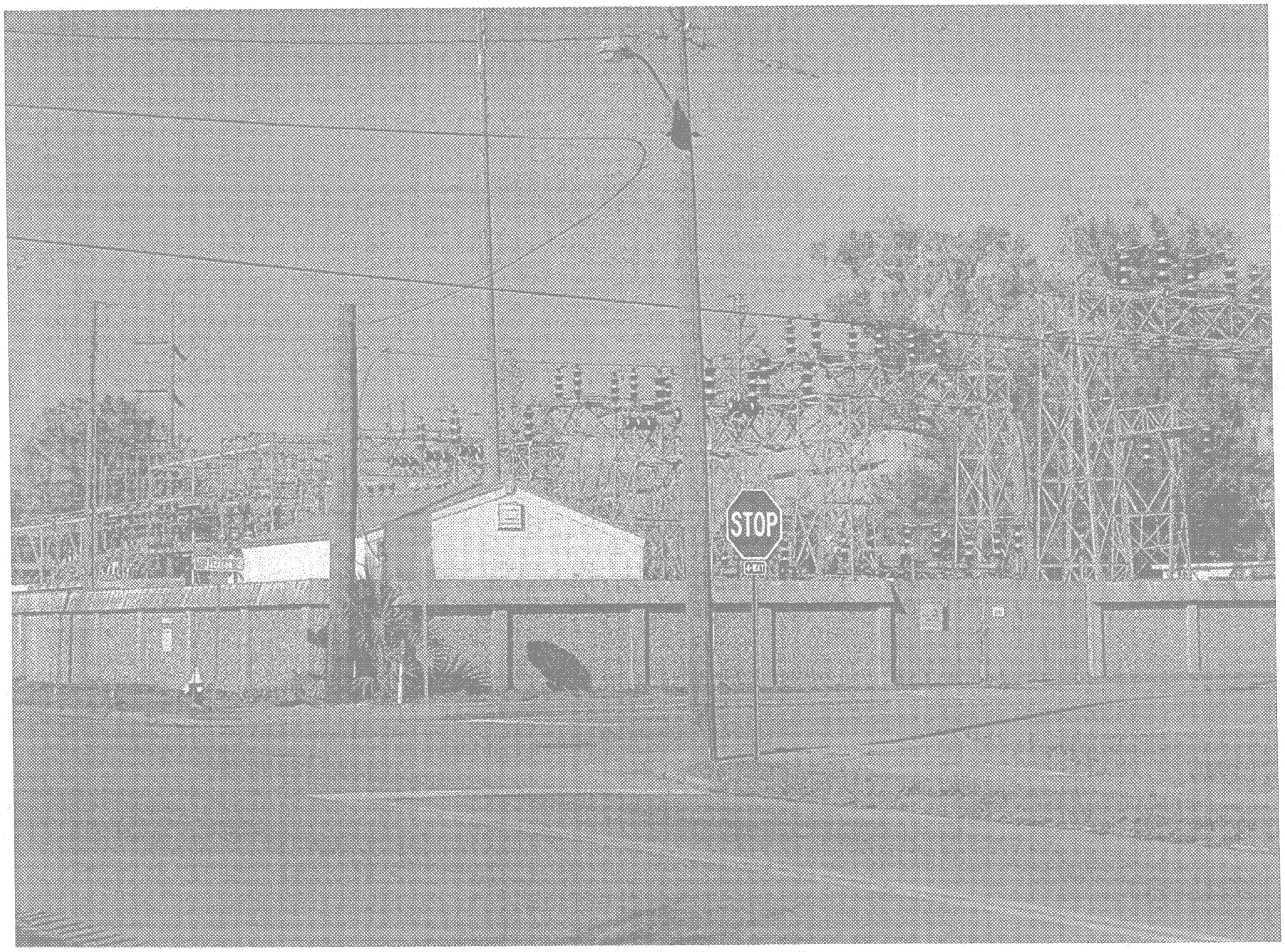
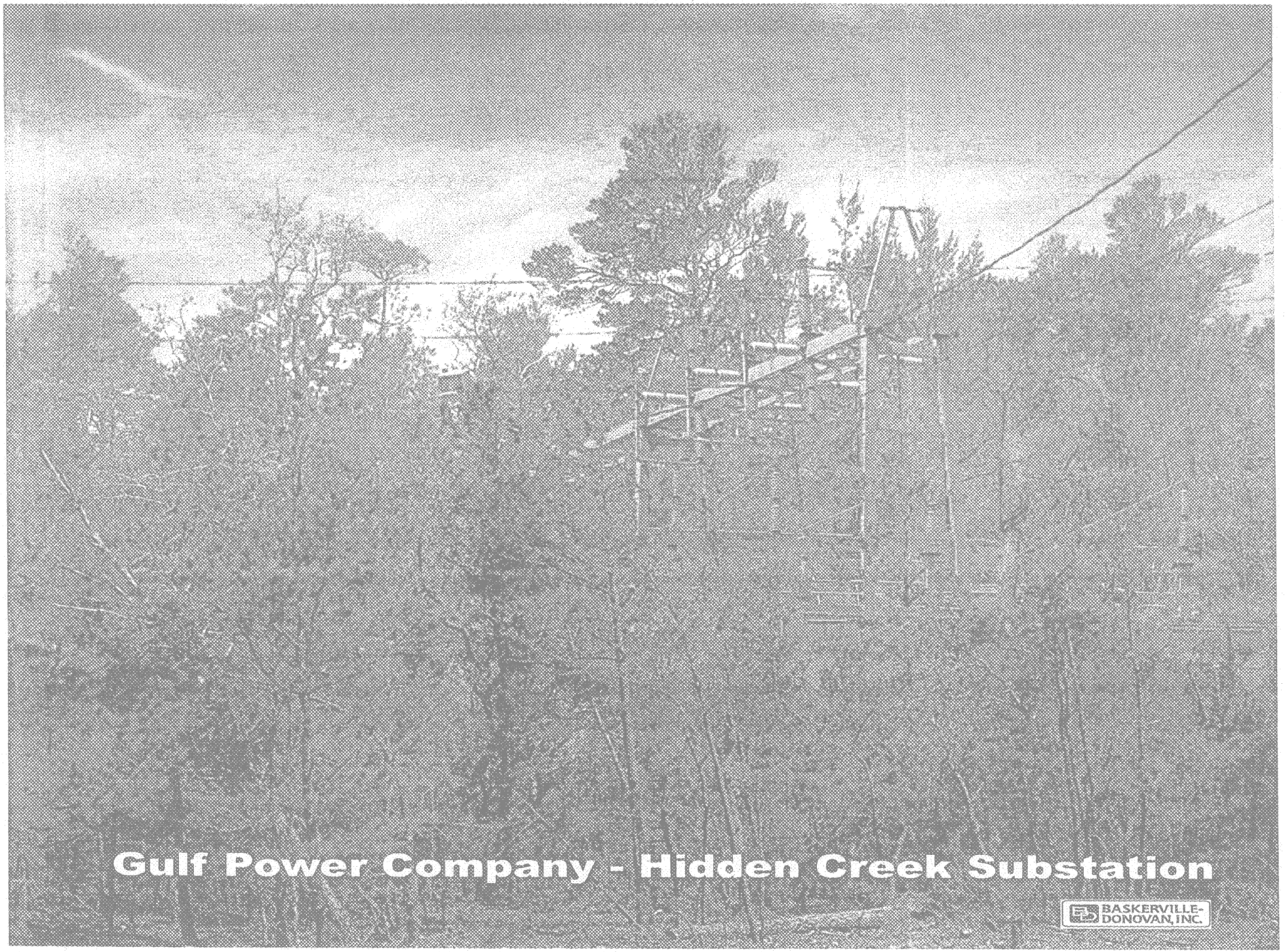
EGLIN AIR FORCE BASE
CHOCTAW
HOLLEY
EAST BAY
EASTBAY TAP SWITCH
NAVARRE
EASTBAY
EAST BAY
HURLBURT AFB TAP SWITCH
HURLBURT AFB
SULLIVAN
HURLBURT
RIVER
LIVE OAK
98
GULF BREEZE

EXAMPLES OF THE DIFFERENT LOOKS THAT A SUBSTATION MIGHT TAKE


STOP


STOP


Gulf Power Company - Hidden Creek Substation
BASKERVILLE-
DONOVAN, INC.

HB 431 Workshop
Littlefield

1 A bill to be entitled
2 An act relating to local government land development
3 regulation; creating s. 163.3206, F.S.; providing
4 legislative intent; providing that electrical substations
5 shall be considered a permittable use in all land use
6 categories and zoning districts; creating s. 163.3208,
7 F.S.; prohibiting a local government from requiring
8 permits or other approvals for vegetation management and
9 tree trimming within an established electric power line
10 right-of-way; providing an effective date.
11
12 Be It Enacted by the Legislature of the State of Florida:
13
14 Section 1. Section 163.3206, Florida Statutes, is created
15 to read:
16 163.3206 Electrical substations; permittable use.--
17 (1) It is the intent of the Legislature to maintain,
18 encourage, and ensure adequate and reliable electrical
19 infrastructure in the state. It is essential that electrical
20 infrastructure be constructed and maintained in various
21 locations in order to ensure the efficient and reliable delivery
22 of electric service.
23 (2) Electrical substations are a critical component of
24 electric transmission and distribution. Reasonable setback,
25 landscaping, buffering, or screening standards for substations
26 may be enacted by local government; however, substations shall
27 be considered a permittable use in all land use categories and
28 zoning districts.

29 Section 2. Section 163.3208, Florida Statutes, is created
30 to read:
31 163.3208 Electric power line right-of-way
32 maintenance.--After a right-of-way for any electric power line
33 has been established, a local government shall not require any
34 permits or other approvals for vegetation management and tree
35 trimming within that established right-of-way. Upon request of
36 the local government, the electric utility shall meet with the
37 local government to discuss the utility's vegetation maintenance
38 plan, including the utility's trimming specifications and
39 management practices.
40 Section 3. This act shall take effect upon becoming a law.