



MCI Telecommunications Corporation

1801 Pennsylvania Avenue, NW
Washington, DC 20006

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September 18, 1997

William F. Caton
Acting Secretary
Federal Communications Commission
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Re: Ex Parte Submission
Federal-State Joint Board on Universal Service; CC Docket No. 96-45
Forward-Looking Mechanism for High Cost Support for Non-Rural LECs; CC Docket
No. 97-160

Dear Mr. Caton:

On September 17, 1997, Richard Clarke and Michael Lieberman of AT&T, John Donovan of Telecom Visions, Inc., and I, collectively the Hatfield representatives, met with the FCC and Joint Board staff members listed at the end of this letter. Also attending the meeting were several representatives of the parties advocating the Benchmark Cost Proxy Model (BCPM) and other interested parties. We gave the attached presentation, describing the development work being undertaken to further refine the outside plant algorithm contained in the Hatfield model.

Respectfully submitted,

Chris Frentrup
Senior Economist
MCI Telecommunications Corp.
1801 Pennsylvania Ave., NW
Washington, DC 20006
(202) 887-2731

CC: FCC Staff
Bryan Clopton, Wade Harriman, Chuck Keller, Bob Loube, Bill Sharkey, Sheryl Todd
(not attending), Natalie Wales, Brad Wimmer

State Joint Board Staff
Brian Roberts, California PUC, Barry Payne - Indiana OCC, Ann Dean - Maryland
PSC, Charlie Bolle - South Dakota PUC, Rowland Curry - Texas PUC

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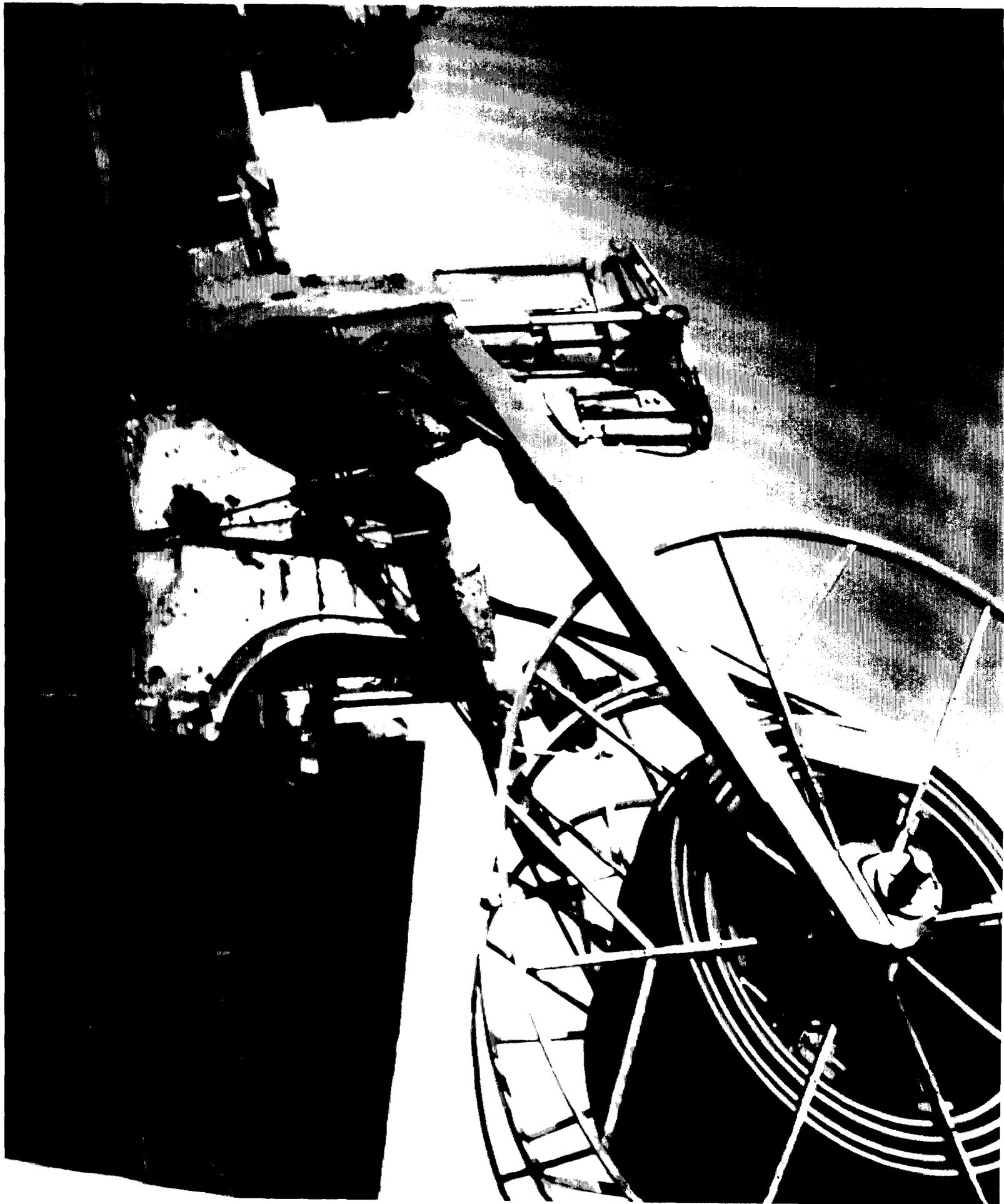


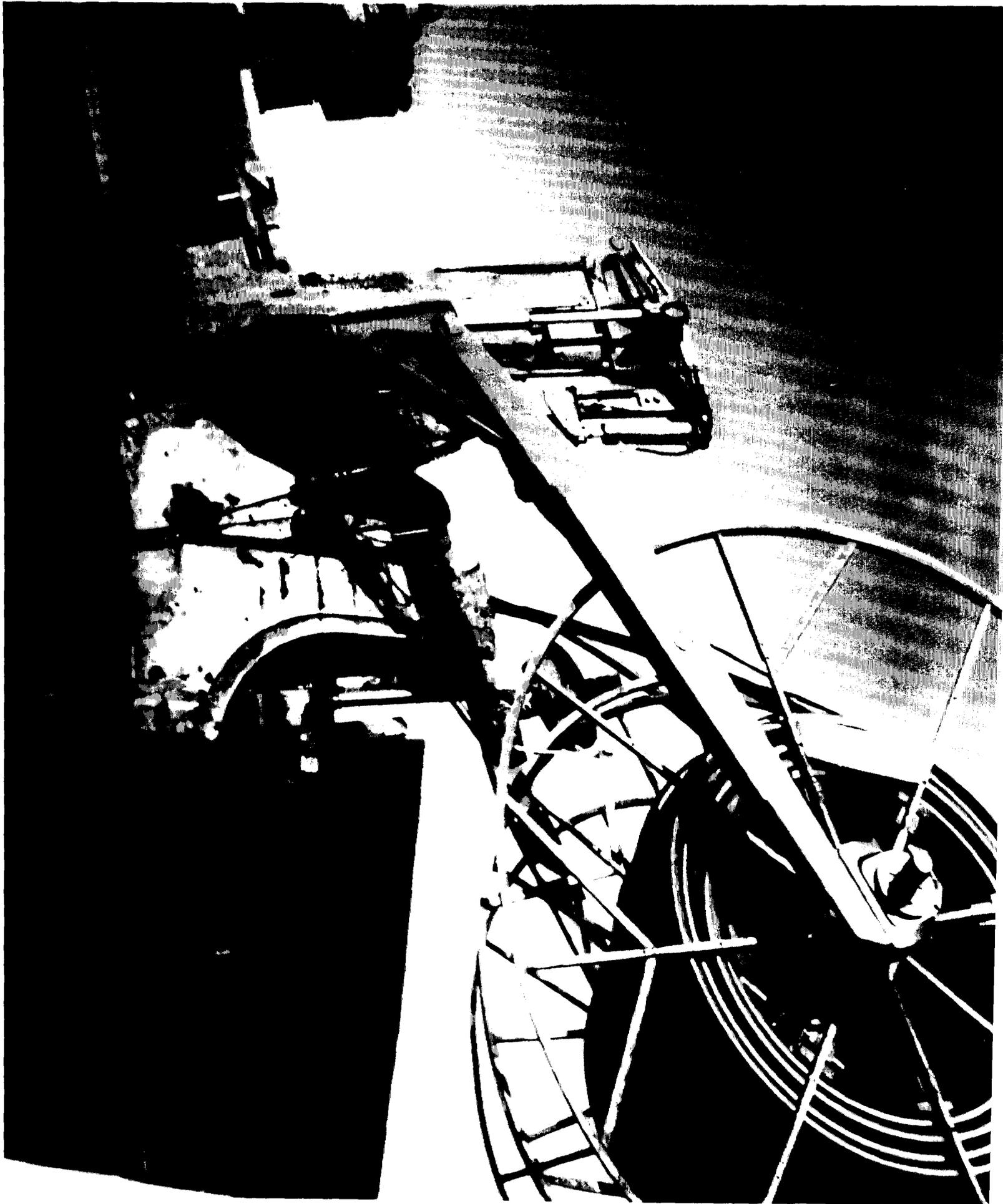


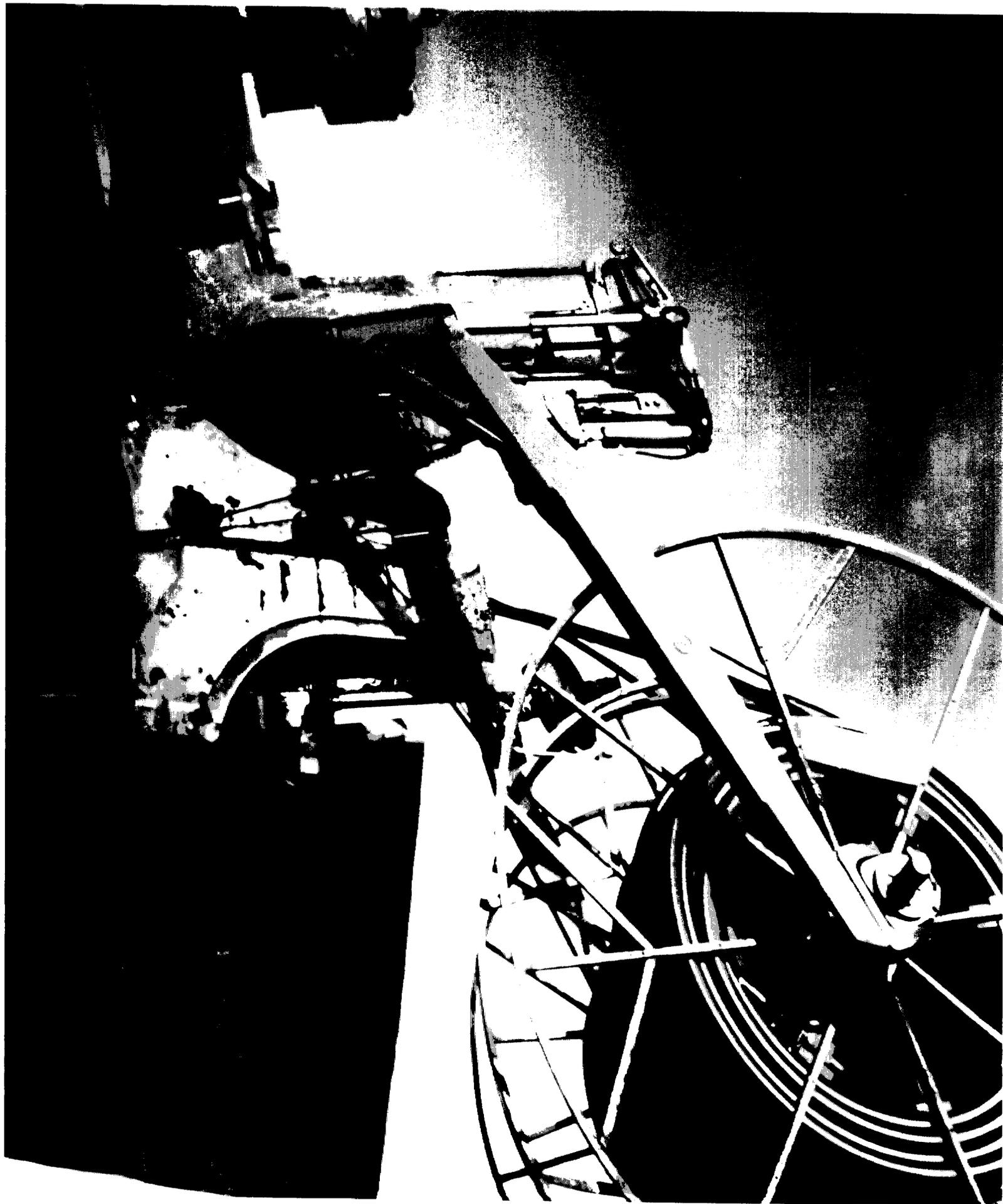


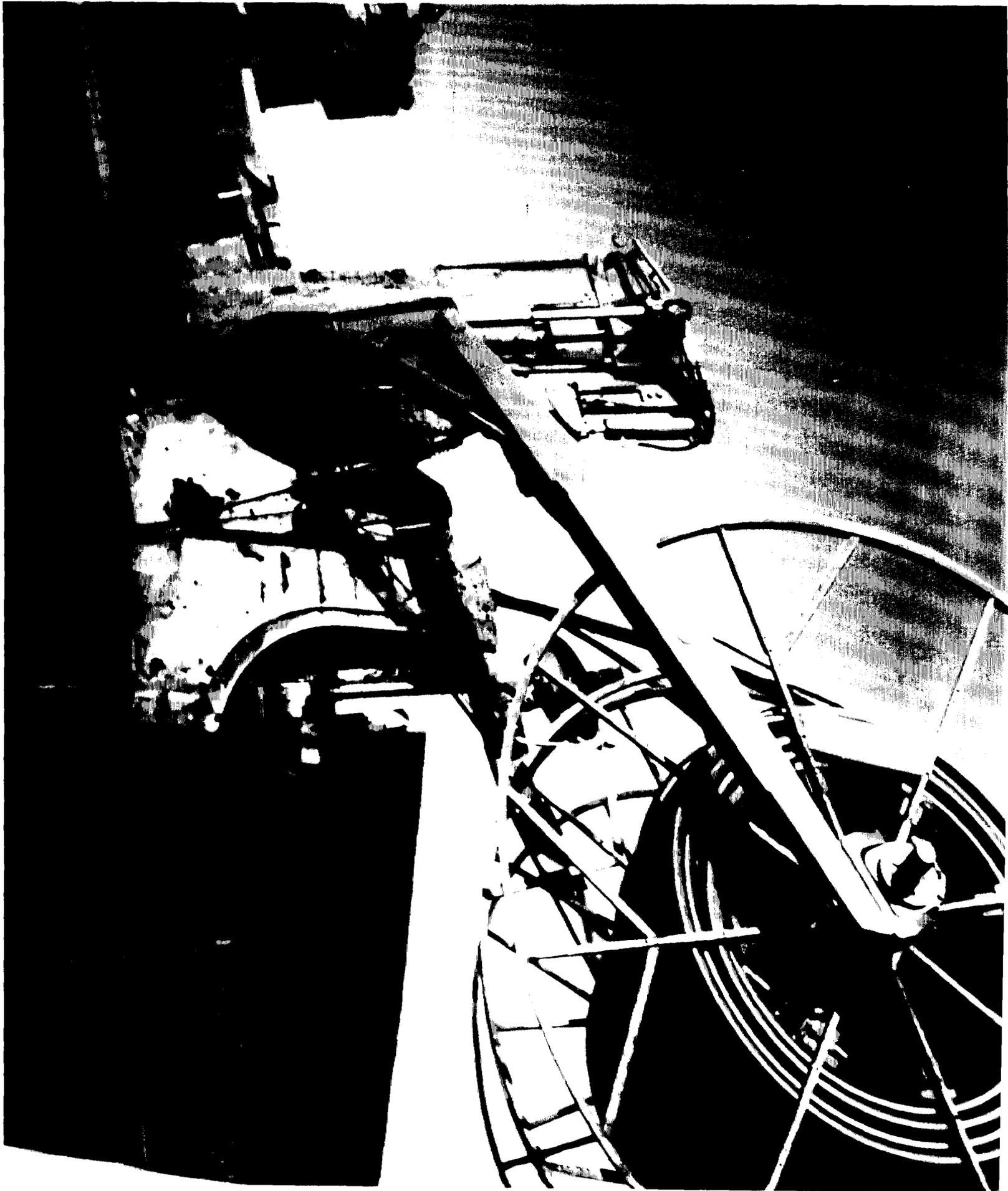


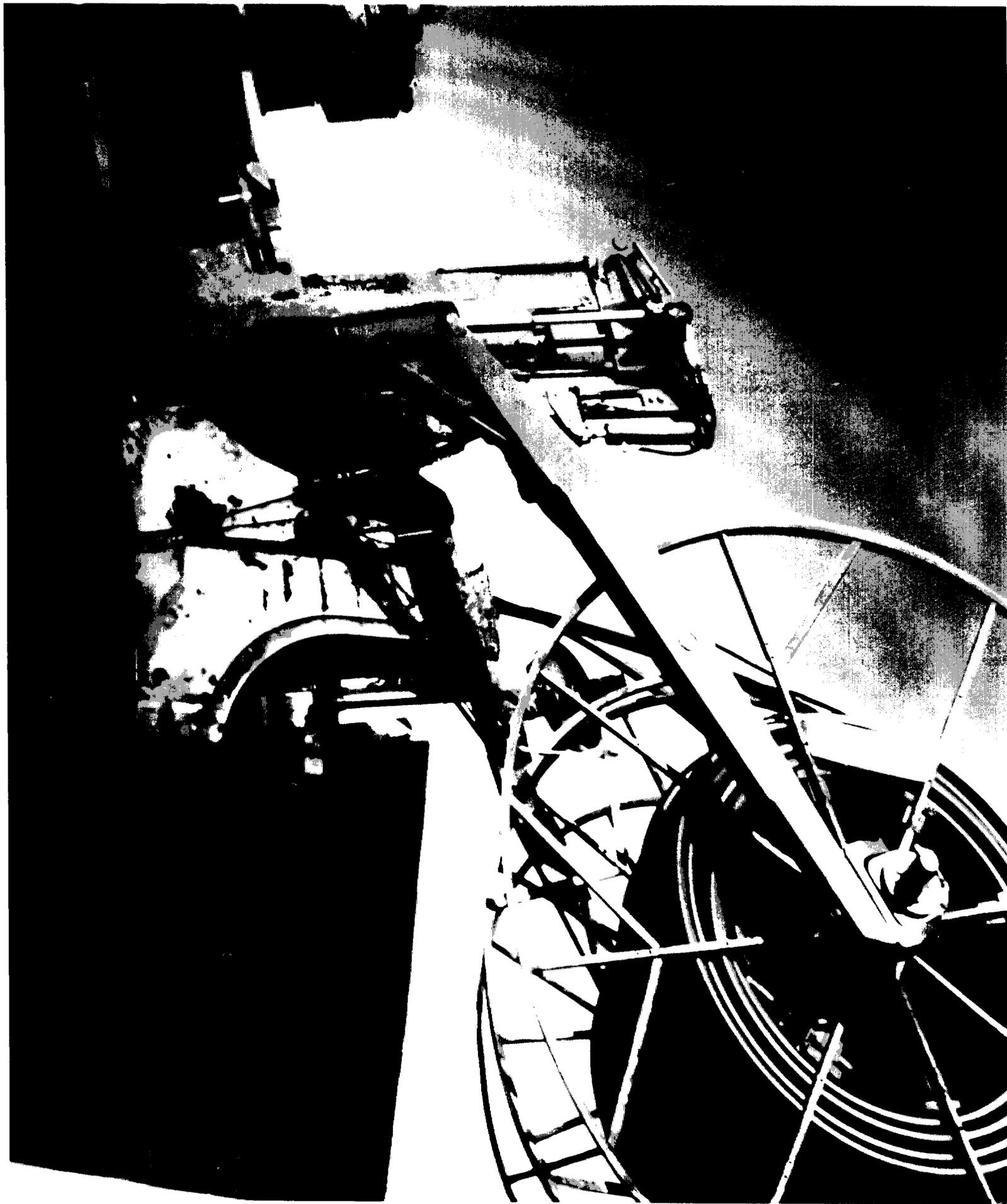














Outside Plant

AT&T

MCI

Hatfield Associates

737 29th Street, Suite 200
Boulder, CO 80303
303-442-5395

John C. Donovan

Telecom Visions, Inc.
11 Osborne Road
Garden City, NY 11530
516-739-3565

Hatfield 4.0 Meets the Following Tentative Conclusions:

- ✓ Cable costs by Plant Mix, Terrain Factors, & Density Zones. {§65}
- ✓ Conduit Installation Costs by Density Zone. {§67}
- ✓ Density Zones based on Lines per Square Mile. {§67}
- ✓ Feeder & Distribution Copper Cable Costs are the same. {§69}
- ✓ Model must include costs for Drops, including Installation, Terminal, Splice, & Pedestal. {§75}
- ✓ Adopt BCPM's categories for installation activities & terrain conditions. {§79}
- ✓ Indicate Sharing Percentages by Line Density Zone. {§79}
- ✓ Loading Coils should not be used. {§86}
- ✓ Include Pole Spacing input values. {§112}
- ✓ Feeder & Distribution Cable Costs should exist for both Copper & Fiber. {§113}
- ✓ Separate the cost of NID Protection Blocks, and distinguish between Residence & Business NIDs. {§115}
- ✓ SAI costs should indicate various sizes, and Indoor vs. Outdoor. {§117}

***We Wish to Submit Information Questioning
the Following Tentative Conclusions:***

- ✘** Optical fiber should be deployed to avoid Loading Coils. {§87}

- ✘** Use of a Cable Plow does not permit multiple, simultaneous Cable Placements. {§80}

- ✘** A Default Aggregate Sharing of 66% is Acceptable. {§81}

- ✘** A Wireless Network could be acceptable. {§101}

✓ *Optical fiber should be deployed to avoid Loading Coils. {§87}*

- ✓ HM 4.0 deploys significant amounts of fiber in the loop.
- ✓ There are no Load Coils in HM 4.0
- ✓ If feeder > 9 kft, fiber feeder to center of CBG.
- ✓ If feeder < 9 kft, but total copper feeder + distribution (copper) > 18 kft, fiber feeder to center of CBG.

- ✓ Once fiber is at center of CBG:
 - ✓ If total copper distribution > 18 kft, extend fiber to center of quadrants.
 - ✓ Serve town factor (which has never been > 18 kft of copper).
 - ✓ If road cables extend > 18 kft (of copper), extend digital T-1 on copper (with repeaters) to 24-line DLCs.

HDSL vs. T-1

- ✓ Copper HDSL for T-1 was investigated.
- ✓ Good solution up to 18 kft.
- ✓ 18 kft - 30 kft requires expensive repeater at 12 kft.
- ✓ 30 kft - 36 kft requires expensive repeaters at 12 kft. & 24 kft.
- ✓ > 36 kft. requires back-to-back HDSL terminals, because unable to repeater.

- ✓ Most cases, although less than 1% of all loops still have > 18 kft. of copper, would require back-to-back HDSL which is significantly more expensive than T-1 with conventional repeaters.
- ✓ Therefore, we chose conventional T-1 after a thorough trial of an HDSL model.

***We Accept Following Tentative Conclusions
Which Require Further Development:***

☞ Separate Material Costs from Installation Costs. {§68}

☞ Difficult Terrain costs vs. multipliers. {§66}

☞ Plant Mix *f* { *terrain_factors* }. {§58}

 ***Separate Material Costs from Installation Costs. {§68}***

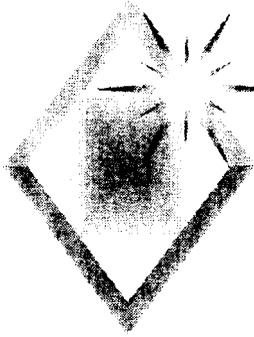
- * Hatfield 4.0 does not currently indicate a breakdown of Material & Installation costs.
- * We believe this is a documentation issue in explaining the default values used in the model.
-  Therefore, the Hatfield Inputs Portfolio binder will be modified to indicate the level of Material, Engineering, and Direct Labor Installation costs included in each appropriate default value.

✍ Difficult Terrain costs vs. multipliers. {§66}

- * Hatfield 4.0 currently uses a Difficult Terrain Multiplier which is applied to total Excavation & Restoral Costs.
- * We believe it is more appropriate to apply extra cost only to the excavation portion of these costs.
- ✍ Therefore, we will investigate the appropriateness of either a multiplier of cost that applies only to the difficult excavation portion of this parameter, or as an additive cost per foot, after consultation with contractors and excavators who normally bid this type of work.

☞ Plant Mix f { terrain factors}. {§58}

- * This recommendation is one of the most intriguing.
- * We believe that it has merit, and are working on a methodology.

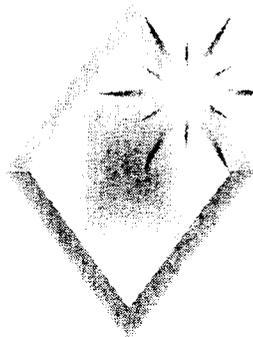


Outside Plant

Plant Mix f{terrain factors}

 *Assumptions*

- *Plant Mix is not solely based on lowest first cost.
- *Percent Underground is primarily a function of the Line Density Zone.
- *Highest Line Density 'Aerial' actually represents Building Riser Cable.



Outside Plant

Plant Mix f{terrain factors}

 **Opportunity**

*Have model dynamically adjust portions of Aerial & Buried.

*By CBG:

*By Distribution

*By Feeder

*Based on Life Cycle Cost.



Outside Plant

Plant Mix f{terrain factors}

Hatfield Approach

*User defines % Underground by Line Density Zone (currently).

*User defines % Aerial & % Buried by Line Density Zone (currently).

*User indicates

*% Aerial at Risk

*% Buried at Risk

by Line Density Zone that can be shifted.



Outside Plant

Plant Mix f{terrain factors}

Hatfield Approach

- *Hatfield Model will evaluate cost per foot of both Aerial & Buried Structure, by Feeder or Distribution.
- *Hatfield Model will dynamically shift % at Risk between Aerial and Buried on a sliding scale (Logistics Curve).

