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BEFORE

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THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio for an Increase in Electric Distribution Rates)	Case No. 08-709-EL-AIR
)	
In the Matter of the Application of Duke Energy Ohio for Tariff Approval)	Case No. 08-710-EL-ATA
)	
In the Matter of the Application of Duke Energy Ohio for Approval to Change Accounting Methods)	Case No. 08-711-EL-AAM
)	

DIRECT TESTIMONY OF

DONALD L. STORCK

ON BEHALF OF

DUKE ENERGY OHIO

- _____ Management policies, practices, and organization
- _____ Operating income
- _____ Rate Base
- _____ Allocations
- _____ Rate of return
- _____ Rates and tariffs
- X Other: Cost-of-Service Study

August 8, 2008

230119

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Testimony supporting cost-of-service studies and changes in pole attachment conduit occupancy tariff.

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Attachments:

DLS-1: Summary of Cost-of-Service Study

DLS-2: Pole Attachment Calculation

I. INTRODUCTION AND PURPOSE

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Donald L. Storck, and my business address is 139 East Fourth Street,
3 Cincinnati, Ohio 45202.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am employed by the Duke Energy Corporation (Duke Energy) affiliated companies
6 as Director, Rates Services.

7 **Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL
8 QUALIFICATIONS.**

9 A. I have a Bachelor of Science Degree in Accounting from Ball State University. I
10 completed an executive education program at the University of Michigan in 1999.

11 **Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE.**

12 A. I began my employment with Public Service Company of Indiana, Inc. (PSI), in
13 1976 as a Staff Accountant in the Corporate Accounting Department. From 1976
14 through 1994, I held several financial positions at PSI and at various times was
15 responsible for Corporate Accounting, Cash Management, Corporate Budgeting
16 and auditing of long-term fuel supply contracts. Following the 1994 merger
17 between PSI and The Cincinnati Gas & Electric Company to form Cinergy Corp.
18 (Cinergy), I held positions with the Cinergy-affiliated companies, supporting the
19 Gas Business Unit and Cinergy Resources, Inc., a non-regulated retail gas
20 marketing company.

1 I was the Financial Reporting Manager for Cinergy's Regulated Business
2 Unit from 1999 until April 2006. I was promoted to my current position in April
3 2006.

4 **Q. PLEASE DESCRIBE YOUR DUTIES AS DIRECTOR, RATE SERVICES.**

5 A. My responsibilities include developing cost-of-service studies, management policies
6 and practices, and organization documents. I am also responsible for tariff
7 administration.

8 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC
9 UTILITIES COMMISSION OF OHIO?**

10 A. Yes. Most recently, I provided testimony in support of Duke Energy Ohio (DE-
11 Ohio or Company) gas rate case application in case number 07-589-GA-AIR.

12 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS
13 PROCEEDING?**

14 A. I sponsor the cost-of-service studies, which are identified as Schedules E-3.2 and
15 E-3.2a through E-3.2h. I also support the changes to DE-Ohio's Pole Attachment
16 and Conduit Occupancy Tariff.

17 **II. SCHEDULES SPONSORED BY WITNESS**

18 **Q. PLEASE DESCRIBE SCHEDULE E-3.2, INCLUDING E-3.2a THROUGH
19 E-3.2h, THE COST-OF-SERVICE STUDIES.**

20 A. The cost-of-service study contained in Schedule E-3.2 is an embedded, fully
21 allocated cost-of-service study by rate class for the twelve-month test period
22 ending December 31, 2008, as adjusted. I prepared the cost-of-service study using
23 information provided by other DE-Ohio witnesses on Schedules B-1 through B-7,

1 C-1 through C-13 and D-1. The cost-of-service study allocates distribution-
2 related cost items such as plant investment, operating expenses, and taxes to the
3 various customer classes and calculates the revenue responsibility of each class.
4 These costs are then classified as customer- or demand-related. Finally, the cost-
5 of-service study calculates the revenue responsibility of each class required to
6 generate the recommended rate of return. Schedules E-3.2a through E-3.2h are
7 cost-of-service studies for each rate group that fully allocate costs by function.

8 **Q. PLEASE DESCRIBE HOW THE COST-OF-SERVICE STUDY IN**
9 **SCHEDULE E-3.2 IS ORGANIZED.**

10 A. Schedule E-3.2, page 1 of the cost-of-service study contains a summary of the cost
11 of service. Pages 2 through 20 show the complete detail of all of the elements of
12 the cost-of-service study. Pages 21 through 25 list the allocation factors, tax rates,
13 and rate of return data that were utilized in the cost-of-service study. The detailed
14 calculation and derivation of the allocation factors utilized in the cost-of-service
15 study are included in the work papers filed in this case.

16 **Q. WHAT JURISDICTIONAL CUSTOMER CLASSES WERE USED IN THE**
17 **COST-OF-SERVICE STUDY?**

18 A. The jurisdictional classes used in the cost-of-service study are as follows:

19 Residential - Rates RS, ORH, RS3P, TD, and CUR

20 Secondary Distribution Large - Rate DS

21 Secondary Distribution Large - Rate EH

22 Secondary Distribution Small - Rate DM

23 Secondary Distribution - Rates GS-FL and SFL-ADPL

1 Primary Distribution - Rate DP

2 Transmission - Rate TS

3 Lighting - Rates OL, UOLS, NSU, NSP, TL, SC, SE, and SL.

4 **Q. WHAT ARE THE ELEMENTS OF A COST-OF-SERVICE STUDY?**

5 A. The elements of a cost-of-service study consist of the following elements, which
6 are allocated to each rate class:

7 Operating and Maintenance (O&M) Expense

8 + Depreciation

9 + Other Taxes

10 + Federal and State Income Taxes

11 + Return (Rate Base x Rate of Return (ROR))

12 - Revenue Credits

13 = Class Revenue Requirement or Cost-of-Service.

14 **Q. WHAT GENERAL METHODOLOGY DID YOU USE FOR THE COST-**
15 **OF-SERVICE STUDIES?**

16 A. First, I functionalized costs into the specific utility functions, *i.e.*, production,
17 transmission, and distribution. I then classified the distribution and common
18 functional costs as customer- or demand-related, or a combination of each in some
19 instances. Transformer costs, for example, were split into customer and demand
20 components using the minimum size method, as explained in greater detail below.

21 Otherwise demand costs were allocated to customer class based on the maximum
22 non-coincident peak or average class group peak methodologies, as appropriate.

23 Customer-related costs are allocated to rate classes based upon the appropriate

1 customer-related allocator. Lastly, I allocated the demand and customer costs to
2 rate classes based on the cost causation guidelines published in the NARUC
3 “Electric Utility Cost Allocation Manual” and based upon my experience with
4 cost-of-service studies.

5 **Q. HOW DID YOU DERIVE THE CUSTOMER AND DEMAND**
6 **ALLOCATORS?**

7 A. The customer and demand allocators were developed by summarizing data
8 contained in work papers WPE-3.2a through WPE-3.2h. Specifically, the load
9 research data is contained in work paper WPE-3.2b.

10 **Q. HOW WERE THE MAXIMUM NON-COINCIDENT PEAK AND**
11 **AVERAGE CLASS GROUP PEAK kW DEMAND VALUES DEVELOPED**
12 **FROM DE-OHIO CUSTOMER LOAD RESEARCH DATA?**

13 A. Load research data and kWh sales levels for the twelve months ending December
14 31, 2006, were used to determine monthly peak day demand data. Load research
15 data and kWh sales information for the twelve months ending December 31, 2006,
16 were used because complete data for the twelve months ending December 31,
17 2007, was not available when I prepared the cost-of-service study. The monthly
18 demand information is included on pages 1 through 8 of work paper WPE-3.2b.
19 The following is an example of how the class group peak kW demand was
20 calculated for Rate RS for the month of January.

- 21 • Step 1 – Determine average demand by dividing the total kWh by the
22 number of hours in the month.
- 23 ○ $664,045,708 \text{ kWh} \div 744 \text{ hours} = 892,535 \text{ kW}$

- 1 • Step 2 – Determine the group peak demand by dividing average
2 demand from Step 1 by the class group peak load factor (from load
3 research data).
4 ○ $892,535 \div 64.290\% \text{ load factor} = 1,388,295 \text{ kW}$
- 5 • Step 3 – Add line losses by multiplying by the loss factor.
6 ○ $1,388,295 \text{ kW} \times 1.05887 \text{ loss factor} = 1,470,024 \text{ kW}$ including
7 losses

8 This process was followed for each rate class for each month to determine each
9 rate class's monthly group peak. The average was calculated for the year to get
10 average class group peak by rate class. A similar procedure was used to develop
11 each class' maximum (single) non-coincident peak.

12 **Q. PLEASE DESCRIBE THE METHODOLOGY USED TO ALLOCATE**
13 **DISTRIBUTION PLANT TO THE VARIOUS CLASSES OF**
14 **CUSTOMERS.**

15 **A.** Several different allocation factors were used to allocate distribution plant to the
16 customer classes. First, distribution plant was grouped by the type of plant such
17 as substations, poles, conductors, etc., as shown on page 2 of Schedule E-3.2.
18 Then it was determined whether each type is customer- or demand- related factor.
19 Then each customer or demand related cost was allocated to rate class.

20 Substations are considered 100% demand-related and were allocated using
21 the average class group coincident peak demand ratios for the twelve months
22 ending December 31, 2006. This factor takes into consideration the load diversity
23 by rate group at the distribution substation level.

1 Poles and conductors are also 100% demand. They were first split into
2 primary and secondary voltages based on circuit-miles. The primary portion was
3 then allocated using the class group peak demand ratios for all distribution
4 customers and the secondary portion using the class group peak demand ratios for
5 only secondary distribution customers. The development of this allocator is
6 shown on Page 3 of work paper WPE-3.2a.

7 I allocated transformers between customer and demand using the
8 minimum size method, explained in further detail below. I allocated the demand-
9 portion of transformers among the customer classes using the maximum non-
10 coincident peak load ratios. The maximum non-coincident peak demand allocator
11 is appropriate because transformers are sized to meet the maximum demand and
12 are close to the customer so there is little or no load diversity. I then allocated the
13 customer-portion of transformers among the customer classes based on the total
14 number of customers.

15 Services are considered 100% customer-related and were allocated based
16 on a weighted-average number of customers. The weighting is based on an
17 engineering analysis that prices various service drop costs based on demands. For
18 example, it is twice as costly for a service drop at 100 kVA versus a service drop
19 at 25 kVA. Customers with an average demand of 100 kVA are weighted at twice
20 the cost of customers with an average demand of 25 kVA.

21 Meters, also 100% customer-related, were allocated based on a weighting
22 similar to services.

1 Q. PLEASE DESCRIBE THE MINIMUM SIZE METHOD USED TO
2 ALLOCATE TRANSFORMER COSTS BETWEEN CUSTOMER- AND
3 DEMAND-RELATED COSTS.

4 A. The minimum size study is shown on work paper WPE-3.2d, pages 7 and 8. The
5 minimum size method assumes that a minimum size distribution system can be
6 built to serve the minimum loading requirements of the customer. For
7 transformers, the study involved determining the minimum size transformer
8 currently installed by DE-Ohio. In this case, it is a 15 kVa transformer. DE-
9 Ohio's 2007 average cost of a 15 kVa transformer was \$1,027.

10 I used asset accounting records to determine the number of overhead and
11 pad-mounted transformers installed each year from 1910 to 2007. I then used the
12 Handy-Whitman Index for Utility Plant Materials (specifically line transformers)
13 to calculate the cost per transformer for each of the years 1910 to 2006, beginning
14 with a 2007 Handy-Whitman index of 401 and 2007 cost of \$1,027. For each
15 year, I multiplied the number of transformers by the cost per transformer to get the
16 minimum size cost per year. I summarized each of the years 1910 to 2007 to
17 arrive at the minimum size transformer cost of approximately \$89 million. This
18 was classified as customer-related costs. The difference between this customer-
19 related cost and the balance in FERC Line Transformer account 368 is the demand
20 component, resulting in allocation factors of 27.923% to customer, 72.077% to
21 demand. I allocated all transformer-related cost (plant, accumulated depreciation,
22 O&M, and depreciation expense) to customer and demand using these factors.

1 **Q. PLEASE DESCRIBE THE METHODOLOGY USED TO ALLOCATE**
2 **COMMON AND GENERAL PLANT.**

3 A. I functionalized common and general plant based on the functionalization of
4 salaries and wages presented on page 354 of DE-Ohio's 2007 FERC Form 1. The
5 allocation of Administrative and General Expense (A&G) is discussed below.
6 DE-Ohio used this method to unbundle electric rates in Case No. 99-1658-EL-
7 ETP, which was filed with, and accepted by, the Commission.

8 **Q. PLEASE EXPLAIN HOW YOU ALLOCATED A&G EXPENSES USING**
9 **THIS METHODOLOGY.**

10 A. I functionalized A&G expenses based on the same functionalization of salaries and
11 wages used for general and common plant. After I functionalized the expenses, I
12 allocated the expenses to rate classes based on the allocation of direct O&M for that
13 function. For example, A&G expenses functionalized as distribution were allocated
14 to rate classes based on each rate class's allocation of direct distribution O&M.

15 **Q. DID YOU USE ANY OTHER ALLOCATION FACTORS IN THE COST OF**
16 **SERVICE STUDY?**

17 A. Yes, there are many plant and expense ratios that were developed internally in the
18 cost-of-service study. The cost-of-service study lists each item's allocation factor
19 under the column identified as "ALLOC." These allocation ratios are presented on
20 Pages 23-25 of Schedule E-3.2 of the cost-of-service study.

1 **Q. PLEASE INDICATE WHERE THE VARIOUS ELEMENTS OF COST OF**
2 **SERVICE CAN BE FOUND IN THE COMPANY'S COST OF SERVICE**
3 **STUDY IN SCHEDULE E-3.2.**

4 A. A summary of each item is listed on page 1 of the cost-of-service study. Pages 2-9
5 contain detailed information on Rate Base; Pages 10-12, Operating and
6 Maintenance expenses; Page 13, Depreciation; Page 14, Other Taxes; Pages 15-19
7 and 22, Federal and State Income Tax; Page 20, the cost of service computation;
8 Page 21, ROR, tax rates and special factors; and Pages 23-25, Allocation Factors.

9 **Q. AFTER YOU DETERMINED THE COST OF SERVICE BY RATE**
10 **CLASS, DID YOU PREPARE ANY OTHER ANALYSES FOR THIS**
11 **PROCEEDING?**

12 A. Yes. Utilizing the results of the cost of service by rate class as described above, I
13 prepared a functionalized cost-of-service study for each rate class. The
14 functionalized study takes the allocated column by class and classifies it as either
15 distribution demand or distribution customer. I provided the results of the complete
16 functionalized cost-of-service studies to DE-Ohio witness Mr. James E. Ziolkowski
17 to use in the rate design process. The results of the functionalized cost of service
18 studies for each rate class are included in the filing as Schedules E-3.2a through E-
19 3.2h.

20 **Q. WHAT DO THE RESULTS OF THE PROPOSED COST-OF-SERVICE**
21 **STUDIES SHOW?**

22 A. Based on the allocation assumptions made and the equity rate of return of 11%
23 requested in this proceeding, the cost of service justifies a distribution revenue

1 increase of approximately \$86 million for the test period ending December 31,
2 2008, as adjusted for known and measurable charges. Attachment DLS-1 is a
3 summary of the cost-of-service study, which supports the proposed deficiency.

4 **Q. WHAT ARE THE PROPOSED REVENUES BY CUSTOMER CLASS?**

5 A. The proposed revenue levels utilized by Mr. Ziolkowski in this proceeding are
6 shown on Page 1 of Schedule E-3.2. The proposed revenues reflect a total increase
7 in distribution base revenues of approximately \$86 million.

8 **III. DISTRIBUTION OF PROPOSED REVENUE INCREASE**

9 **Q. WHAT METHODOLOGY DID YOU USE IN THIS PROCEEDING TO**
10 **DISTRIBUTE THE PROPOSED REVENUE INCREASE?**

11 A. I used a two-step process to distribute the proposed revenue increase. The first step
12 eliminated 100% of the subsidy/excess revenues between customer classes based on
13 present revenues. The second step allocated the rate increase to customer classes
14 based on distribution original cost depreciated (OCD) rate base.

15 **Q. PLEASE EXPLAIN IN GREATER DETAIL THE FIRST STEP THAT**
16 **ELIMINATES 100% OF THE SUBSIDY/EXCESS REVENUES.**

17 A. This step takes into consideration that the Company is not earning the same rate of
18 return on all customer classes. Although it is unlikely that equal rates of return
19 across all rate classes are achievable, nonetheless, large variances among the
20 customer classes should be eliminated. A comparison of revenues under present
21 rates and at the retail average rate of return is made and then 100% of that amount is
22 added to, or subtracted from, the rate increase to determine the proposed revenues in
23 this proceeding.

1 **Q. WHY DID YOU PROPOSE A 100% REDUCTION IN THE**
2 **SUBSIDY/EXCESS IN THIS PROCEEDING?**

3 A. In reviewing the present rate of returns by class shown on Page 1 of work paper
4 WPE-3.2g, there is a significant difference in those returns. A significant difference
5 requires a 100% reduction in order to move the classes to the average rate of return.
6 A 100% reduction means that each class pays the cost to serve that class, no more
7 and no less.

8 **IV. POLE ATTACHMENTS**

9 **Q. PLEASE EXPLAIN DE-OHIO'S PROPOSED CHANGE TO ITS POLE**
10 **ATTACHMENT TARIFF.**

11 A. DE-Ohio is proposing an increased pole attachment rate and adding provisions in
12 the tariff to clarify existing attachment and occupancy terms and address
13 unauthorized attachments and safety violations. The current pole attachment rate is
14 \$4.25 per pole attachment per year and the proposed rate is \$14.42 per pole
15 attachment per year.

16 **Q. PLEASE EXPLAIN WHY THE COMPANY IS PROPOSING TO INCLUDE**
17 **PROVISIONS ADDRESSING UNAUTHORIZED ATTACHMENTS AND**
18 **SAFETY VIOLATIONS?**

19 A. During a recent pole attachment audit, DE-Ohio found a number of unauthorized
20 attachments. These unauthorized attachments are problematic for a number of
21 reasons. First, unauthorized attachers are not paying their fair share and are in
22 violation of DE-Ohio's tariffs. Second, as the recent audit has shown, many
23 unauthorized attachments are in violation of the National Electric Safety Code

1 (NESC). Among other things, safety violations may compromise system reliability
2 for customers. Third, unauthorized attachments increase DE-Ohio's pole
3 maintenance expense. When DE-Ohio discovers an unauthorized attachment or
4 safety violation, it must incur time and expense in identifying the unauthorized
5 attacher or initiating efforts to have the safety violation corrected. The penalty
6 provisions are intended to deter unauthorized or improper attachments and, as a
7 result, protect the Company and other entities with authorized attachments.

8 **Q. WHAT ARE THE SAFETY CONCERNS WITH UNAUTHORIZED**
9 **ATTACHMENTS?**

10 A. Attachments need to be installed and maintained to comply with requirements of the
11 NESC, other governmental authorities, and the Company. Unauthorized attachments
12 or those that do not comply with applicable codes and regulations can interfere with
13 the operation of the Company's equipment. Furthermore, DE-Ohio maintains an
14 inventory of who has attached to its poles and what equipment is on the poles. This
15 information is very important to DE-Ohio's employees who may have to climb the
16 poles when responding to a trouble call. Unauthorized attachments, especially those
17 that are improperly installed, could impact DE-Ohio's ability to respond to outages
18 if there is a safety concern.

19 **Q. HOW MANY POLE ATTACHMENTS ARE CHARGED THE CURRENT**
20 **RATE?**

21 A. There are 118,624 documented pole attachments that are being charged \$4.25 per
22 pole attachment per year, which equals approximately \$504,151 annually. With the
23 proposed annual pole attachment charge of \$14.42, the annual collected amount is

1 \$1,710,558, an increase of \$1,206,407.

2 **Q. WHY IS A NEW POLE ATTACHMENT RATE NECESSARY?**

3 A. The current pole attachment rate was established in Case No. 92-1464-EL-AIR and,
4 consequently, has been in effect for 16 years. The current rate does not reflect DE-
5 Ohio's current costs of maintaining, inspecting, and inventorying the pole
6 attachments. The proposed rate reflects the current cost of pole attachments and
7 prevents electric utility ratepayers from subsidizing pole attachments.

8 **Q. PLEASE EXPLAIN HOW THE NEW POLE ATTACHMENT RATE WAS**
9 **DETERMINED?**

10 A. The current pole attachment rate is \$4.25. Section 224 of the Communications
11 Act (Pole Attachment Act) provides for the determination of maximum rates for
12 CATV by applying the Cable Formula based on FERC Form 1 numbers. Using
13 the current 2007 FERC Form 1 numbers, DE-Ohio has determined that the
14 maximum allowed rate for CATV pole attachments is \$14.42. The new
15 calculation is included as Attachment DLS-2.

16 **Q. WHAT IMPACT DOES THIS CHANGE HAVE ON DE-OHIO'S RETAIL**
17 **DISTRIBUTION REVENUE REQUIREMENT?**

18 A. Because the proposed change will generate \$1,206,407 additional revenue over
19 the current test year amount, it will reduce the revenue requirement for retail
20 distribution service by a like amount. As shown in the workpaper, WPC-3.1, for
21 Schedule C-3.1, Other Revenue for the Test Year is adjusted to reflect the
22 proposed change in pole attachment charges. Of course, to the extent the
23 Commission disallows the proposed change or approves a rate lower than the

1 \$14.42 annual charge I am proposing herein, the impact will be to increase the
2 revenue increase required from distribution service as shown in Schedule A-1.

3 **V. CONCLUSION**

4 **Q. HOW WERE THE RESULTS OF YOUR COST-OF-SERVICE STUDIES**
5 **AND THE DISTRIBUTION OF THE RATE INCREASE UTILIZED IN**
6 **THIS PROCEEDING?**

7 **A.** The results of the fully allocated and functionalized cost-of-service studies, which
8 include the proposed revenues discussed above, were supplied to Mr. Ziolkowski
9 for use in designing the proposed distribution rates for each rate class.

10 **Q. WERE THE SCHEDULES AND ATTACHMENTS YOU SPONSOR**
11 **PREPARED BY YOU OR UNDER YOUR DIRECTION AND**
12 **SUPERVISION?**

13 **A.** Yes.

14 **Q. IS THE INFORMATION CONTAINED IN THOSE SCHEDULES AND**
15 **ATTACHMENTS TRUE AND ACCURATE TO THE BEST OF YOUR**
16 **KNOWLEDGE AND BELIEF?**

17 **A.** Yes.

18 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

19 **A.** Yes.

Duke Energy Ohio

Pole Attachment Formula For
Electric Utility Owners Using FERC Part 101 Accounts (excluding telecomm carriers)
BASED UPON 2007 FERC FORM 1 DATA

A. Components

1 Rate of Return = 8.24%

2 Depreciation

Depreciation Rate X Gross Pole Investment Net Pole Investment = 2.44% X $\frac{\$284,535,121}{\$284,535,121 - \$100,036,816 - (\$483,056)}$ = 3.75%

3 Tax Expense

FERC Accounts 408.1+409.1(a)+409.1(b)+410.1-411.1+411.4
Gross Electric Plant Investment - Electric Plant Depreciation Reserve - ADIT (Acct. 180)

$$\frac{179,680,697 + 124,555,273 + 16,291,377 + 44,371,772 - 38,639,145 + -1,318,357}{7,118,468,368 - 2,469,655,355 - -12,076,399} = \frac{324,954,617}{4,660,889,432} = 6.97\%$$

4 Maintenance Expense

FERC Account 583
(Investment in Accounts 364 + 365 + 369) - (Depreciation in 364 + 365 + 369) - (ADIT in 364 + 365 + 367)

$$\frac{284,535,121 + 283,463,254 + 49,636,936 - 100,036,816 - 89,824,712 - 34,674,167 - -83,068 - -60,041 - -84,535}{394,146,848} = \frac{26,170,919}{394,146,848} = 6.64\%$$

5 Administrative Expense

Total Administrative and General Expense = 243,366,685
Gross Electric Plant Investment - Electric Plant Depreciation Reserve - ADIT (Acct 190) = $\frac{243,366,685}{7,118,468,368 - 2,469,655,355 - -12,076,399}$ = 5.22%

B. Distribution Pole Carrying Charge Rate

% of Net Bare Pole Cost per Year

Rate of Return	8.24%
Depreciation Expense	3.75%
Federal, State, and Other Taxes	6.97%
Maintenance Expense	6.64%
Administrative Expense	5.22%
Total Annual Carrying Charge Rate	<u>30.83%</u>

C. Net Investment Per Bare Pole

$95.0\% \frac{\text{Gross Pole Investment} - \text{Pole Depreciation Reserve} - \text{ADIT for Poles}}{\text{Number of Poles in Service}}$

$$0.95 \frac{(\$284,535,121 - \$100,036,816 - (\$483,056))}{248,901} = \$631.71$$

D. Rate Calculation

1 Net Investment per Bare Pole x Annual Carrying Charge = Annual Pole Cost

\$631.71 x 30.83% = \$194.73

2 Annual Pole Cost x Attachment Percentage of Usable Pole Space = Attachment Rate for CATV

\$194.73 x 7.41% = \$14.42