

FILE COPY

DIRECT TESTIMONY OF

DAVID J. RUMOLO

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

REGARDING SEBRING UTILITIES COMMISSION

DOCKET NO. 920949-EU

**Resource Management International, Inc.
Unpublished Work © September 1992**

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FPSC-RECORDS/REPORTING

**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION
DIRECT TESTIMONY OF
DAVID J. RUMOLO**

In re: Joint Petition of Florida Power
Corporation and Sebring Utilities
Commission for Approval of Certain
Matters in Connection with Sale of Certain
Assets By Sebring Utilities Commission
to Florida Power Corporation

Docket No. 920949-EU

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A. My name is David J. Rumolo and my business address is 340 East Palm Lane, Suite 250,
3 Phoenix, Arizona 85004.

4 Q. BY WHOM ARE YOU EMPLOYED AND WHAT POSITION DO YOU HOLD?

5 A. I have been employed by Resource Management International, Inc. for over seven years
6 and I hold the position of Executive Consultant. As an Executive Consultant, I provide
7 a broad range of consulting services including financial, engineering, valuation, and
8 management consulting assignments.

9 Q. PLEASE DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

10 A. I graduated from the University of Colorado in 1973 with a Bachelor of Science degree
11 in Electrical Engineering and a Bachelor of Science in Business with Finance as the area
12 of emphasis.

13 From February 1974 to April 1976, I was employed by Miner and Miner Consulting
14 Engineers, Inc. as a staff engineer. During this time, I was involved in the preparation
15 of utility system planning studies, cost of service studies, and financial forecasts.

16 From April 1976 to December 1976, I was employed by Chemelex, Inc. as an
17 applications engineer responsible for the design of electric heat tracing/protection
18 systems.

19 From December 1976 to January 1980, I was employed by Miner and Miner Consulting
20 Engineers, Inc. as their Chief Planning and Rate Engineer. During this time, I was
21 responsible for the preparation of utility planning studies, cost of service studies, rate
22 analysis, and system protection studies.

23 From January 1980 to February 1985, I was employed by Electric Systems Consultants,
24 Inc. As the Chief Planning Engineer, I was responsible for cost of service studies, rate
25 analysis, utility operating rate and regulation studies, financial studies and system

1 protection studies.

2 Since joining RMI in February 1985, I have performed transmission and distribution
3 analysis and project management, inventory and valuation of electric utility property,
4 analysis of load projections, preparation of utility resource plans and system protection
5 analysis.

6 **Q. HAVE YOU PROVIDED EXPERT TESTIMONY CONCERNING UTILITY**
7 **MATTERS ON PREVIOUS OCCASIONS?**

8 A. Yes, I have testified before the Colorado Public Utility Commission, the Wyoming Public
9 Service Commission and courts in the states of Arizona and California.

10 **Q. DO YOU HAVE EXPERIENCE IN THE VALUATION AND COSTING OF**
11 **ELECTRIC UTILITIES?**

12 A. Yes. Throughout my career I have been involved in the development of costs and cost
13 estimates for electric utility transmission, distribution, and substation facilities. For
14 example, I have been responsible for the development of long range plans and
15 construction work plans for utilities in Alaska, Colorado, Wyoming, Nebraska, Texas,
16 Kansas, and others. These utility planning studies require the development of detailed
17 cost estimates for utility construction projects.

18 In addition, I have testified on utility valuation in Arizona and California. In these cases,
19 a municipality was acquiring the electric utility facilities of an investor owned utility
20 through eminent domain proceedings.

21 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY TODAY?**

22 A. I am testifying on behalf of Sebring Utilities Commission in this proceeding. My
23 testimony will describe RMI's efforts and methods to develop the value of the Sebring
24 Utilities Commission's transmission and distribution system as well as to identify the net
25 book value of the tangible assets being acquired by FPC. To further support my

1 testimony I am sponsoring two exhibits: Exhibit DJR-1 is a list of standardized
2 groupings of distribution equipment ("assembly units") used in the valuation proceeding.
3 Exhibit DJR-2 is my report titled Sebring Utilities Commission Distribution System
4 Valuation.

5 **Q. PLEASE EXPLAIN THE SEQUENCE OF EVENTS THAT LED TO RMI'S**
6 **PERFORMANCE OF A VALUATION STUDY OF SEBRING'S DISTRIBUTION**
7 **SYSTEM?**

8 A. Until early 1991, Sebring was a municipal water and electric utility with generation,
9 transmission and distribution assets. Since that time Sebring has sold its generation assets
10 to Tampa Electric Company. In addition, Sebring has issued a "request for proposal"
11 (RFP) to analyze the viability of selling the remaining utility assets in order to pay off
12 Sebring's mounting debt obligations. To assist in evaluation of proposals under the RFP,
13 we were asked to establish an accurate net book value of the tangible assets through a
14 valuation study.

15 **Q. WHY DIDN'T RMI SIMPLY RELY ON SEBRING'S STATED NET BOOK**
16 **VALUE TO DETERMINE VALUE OF THE UTILITY'S TANGIBLE ASSETS?**

17 A. As discussed in the testimony of Nancy Holloway, Sebring had not adhered to the
18 Federal Energy Regulatory Commission's (FERC) uniform system of accounts but rather
19 has used governmental accounting practices. As a result, the asset value recorded in
20 Sebring's books was not an accurate reflection of the true net book value of the utility's
21 tangible assets. This was confirmed by a series of checks of 53 work order files selected
22 at random from Sebring records. RMI reviewed each of these work order files in detail
23 to determine the cost that was booked for the job as well as the cost that should have
24 been booked. This analysis indicated that the cost that was booked for these 53 jobs was
25 approximately 37% lower than it should have been. The major areas of error

1 encountered were the lack of appropriate overheads being applied to labor and materials,
2 and improper accounting of transportation equipment usage for the particular jobs.

3 **Q. WHY DIDN'T RMI USE THIS ADJUSTED SAMPLE OF PROJECTS TO SIMPLY**
4 **PROJECT THE TOTAL SYSTEM NET BOOK VALUE?**

5 A. Because of the lack of records prior to 1982, RMI had no way of determining whether
6 this sample of 53 jobs, or any sample of jobs, was representative of the system.
7 Therefore, Sebring authorized RMI to perform a full valuation study to determine the
8 true net book value of the tangible property, plant and equipment assets.

9 **Q. PLEASE SUMMARIZE THE METHODOLOGY USED BY RMI IN PERFORMING**
10 **ITS VALUATION STUDY?**

11 A. RMI used a basic two-step procedure for valuing the Sebring system: first, RMI
12 determined the physical inventory of the facilities; second, RMI prepared detailed
13 estimates of the cost to reproduce the facilities and adjusted those reproduction costs to
14 reflect the original cost of construction. This two-step process was used to determine a
15 value for the materials, labor, and vehicle components of the distribution system, as well
16 as other costs such as the transmission line and the substations. In addition, accumulated
17 depreciation was calculated based on the original cost and vintage of these assets, and
18 construction work in progress was taken into account.

19 **STEP 1: DEVELOPING THE INVENTORY**

20 **Q. PLEASE DESCRIBE HOW YOU DEVELOPED THE INVENTORY OF THE**
21 **EQUIPMENT TO BE VALUED.**

22 A. FPC, as part of its participation in the Sebring RFP process, had performed a detailed
23 field survey to determine the total quantity of the Sebring distribution facilities. Through
24 these efforts and the use of the FPC Automated Construction Estimating (ACE) Program,
25 FPC produced a detailed list of materials needed to reproduce the Sebring system, as well

1 as a listing of the FPC assembly units (i.e., various devices and line configurations on
2 a pole-by-pole basis). Because RMI assisted in the quality control of the FPC inventory
3 and, after detailed review, concluded that the results thereof were representative of the
4 Sebring system, we elected to rely on the FPC inventory as part of the valuation study.

5 **Q. PLEASE EXPLAIN IN DETAIL THE QUALITY CONTROL EFFORTS**
6 **UNDERTAKEN BY RMI TO CONFIRM THE ACCURACY OF THE FPC**
7 **INVENTORY?**

8 A. Twice a week throughout the FPC inventory process, RMI personnel participated with
9 Sebring and FPC to randomly select and field check ACE coding sheets for accuracy.
10 During the early checks, RMI checked every tenth pole location depicted in the Sebring
11 distribution facilities maps. After verifying the general accuracy of the ACE code sheets,
12 the team elected to check every 20th pole. The team found that the ACE code sheets
13 were accurately completed. In addition, RMI performed its own checks to verify that the
14 ACE code sheets were properly entered into the computer. RMI personnel randomly
15 selected 230 ACE coding sheets and checked those against the computer print-out to
16 verify the accuracy of the data entry process. RMI concluded that the ACE data was an
17 accurate representation of the inventory of the Sebring system. Once the inventory was
18 determined to be accurate, we then proceeded to Step 2 in the process -- preparing
19 detailed cost estimates to construct the facilities.

20 **STEP 2: ESTIMATE OF SYSTEM VALUE**

21 **Q. PLEASE DESCRIBE HOW RMI ESTIMATED THE COST OF THE SEBRING**
22 **SYSTEM?**

23 A. RMI reviewed the list of materials generated by ACE for reproduction of the Sebring
24 system and developed current unit prices for each of the items on the material list. This
25 unit price multiplied by the number of units in any given year produced the reproduction

1 cost of materials necessary to build the Sebring system. The reproduction costs were
2 then restated into original cost using the Handy-Whitman index appropriate for the given
3 item and the given year of vintage. Finally, accumulated depreciation was calculated and
4 taken into account.

5 **Q. DID RMI TAKE INTO ACCOUNT LABOR AND VEHICLE CHARGES**
6 **REQUIRED TO REPRODUCE THE SEBRING SYSTEM?**

7 A. Yes.

8 **Q. PLEASE EXPLAIN.**

9 A. In order to determine the proper labor and vehicle charges, RMI used the ACE printouts
10 which recorded the FPC assembly units on a location by location basis. However,
11 because no computer file with this information was available, RMI and Sebring staff
12 developed Sebring specific labor assembly units that captured the labor and vehicle costs
13 associated with the installation of that particular hardware configuration.

14 **Q. HOW DID RMI DEVELOP THE SEBRING SPECIFIC ASSEMBLY UNITS?**

15 A. The Sebring specific assembly units and their corresponding labor and vehicle charges
16 were developed by RMI. These labor and vehicle charges represent the best estimate of
17 what it would take Sebring, using current Sebring work practices, to reproduce each of
18 these assembly units. These labor charges represent real world considerations such as
19 work performed around energized primary, construction in backyard easements, travel
20 time to and from the job site, materials handling time and appropriate Administrative and
21 General (A&G) and payroll overheads.

22 Once the labor and vehicle assembly units were developed, RMI reviewed the ACE
23 printout on a location by location basis, interpreted the configuration of the pole and the
24 type of equipment installed, and then translated the FPC assembly units to a Sebring
25 specific assembly unit. This data was entered into the computer and the reproduction

1 cost of each assembly unit was multiplied by the number of the assembly units in any
2 given year. Like the material cost, this reproduction cost was then restated into the
3 appropriate original cost using the Handy-Whitman index and accumulated depreciation
4 was calculated.

5 The combination of labor, vehicle costs, together with the materials costs to which I have
6 previously testified yielded the original costs, accumulated depreciation and net book
7 value of the Sebring distribution system.

8 VALUATION OF TRANSMISSION AND SUBSTATIONS

9 **Q. WERE ASSETS OTHER THAN THE DISTRIBUTION SYSTEM EVALUATED BY**
10 **RMI?**

11 **A.** Yes. In addition to the distribution system, RMI also placed a value on the Lakewood
12 transmission line, Lakewood substation, Dinner Lake substation and various general plant
13 assets being acquired by FPC.

14 **Q. HOW WAS THE NET BOOK VALUE OF THE TRANSMISSION SYSTEM**
15 **DEVELOPED?**

16 **A.** The transmission system for this study consisted of a single transmission line associated
17 with the Lakewood Substation. This transmission line was built in 1989 and complete
18 work orders and documentation were available in Sebring's files. These work orders
19 were adjusted to include the appropriate overheads and vehicle costs not previously
20 stated in the work orders. The resulting statement of original cost was reduced by
21 accumulated depreciation to arrive at net book value.

22 **Q. HOW WAS THE NET BOOK VALUE FOR THE LAKEWOOD SUBSTATION**
23 **DEVELOPED?**

24 **A.** The Lakewood Substation was built in 1989 at the same time the transmission line was
25 built. Complete work orders and documentation were available in the Sebring Utilities

1 Commission's files and, as with the transmission line, the work orders were adjusted for
2 appropriate overheads and vehicle costs. The resulting statement of original costs was
3 reduced by accumulated depreciation to arrive at net book value.

4 **Q. HOW WAS THE NET BOOK VALUE FOR DINNER LAKE SUBSTATION**
5 **DEVELOPED?**

6 A. Dinner Lake Substation is over 25 years old. Construction has occurred at different
7 times over several years. There are limited records in the Sebring files to indicate the
8 cost of the installation of the Dinner Lake Substation. Because of this, RMI elected to
9 prepare an independent estimate of the reproduction cost of the entire substation. RMI
10 used Sebring's engineering drawings of the substation to develop this cost. The cost
11 reflects the reproduction cost of a similar substation capable of serving the same load
12 with the same number of lines, circuit breakers, and transformers. Based on
13 information in the Sebring files, RMI determined that major construction at the Dinner
14 Lake Substation occurred at three different times during its service life. Using this
15 information, the reproduction cost was restated to an original cost using Handy Whitman
16 Index. Net book value for this substation was calculated by reducing the original cost
17 by the accumulated depreciation.

18 **Q. DID RMI EVALUATE CONSTRUCTION WORK IN PROGRESS (CWIP) IN**
19 **PERFORMING ITS STUDY?**

20 A. Yes. The value of CWIP was determined by examining the detailed printout from
21 Sebring's accounting system for each construction work order. Appropriate adjustments
22 were made for A&G and payroll overheads, vehicle charges, stores overhead and
23 purchasing overhead. These restated work orders were then summed to produce the
24 CWIP for the electric system. General plant CWIP consists of a lease purchase payment
25 for a copier.

1 Q. HOW WAS THE NET BOOK VALUE FOR THE OTHER ASSETS IN THE
2 SEBRING SYSTEM, SUCH AS GENERAL PLANT AND MISCELLANEOUS
3 DISTRIBUTION ASSETS, DEVELOPED?

4 A. As it did for the materials cost, RMI developed a current cost for each of these items and
5 adjusted the resulting reproduction cost to an original cost using the age of the asset. Net
6 book value was calculated by subtracting accumulated depreciation from the original
7 costs.

8 **DEPRECIATION ADJUSTMENTS**

9 Q. HOW WAS ACCUMULATED DEPRECIATION DETERMINED IN THE RMI
10 VALUATION STUDY?

11 A. RMI used the depreciation rates recommended by the Rural Electrification Administration
12 (REA). These rates were applied on a FERC account by FERC account basis.

13 Q. WHY DOES RMI BELIEVE THE REA DEPRECIATION RATES ARE
14 APPROPRIATE FOR USE IN THIS VALUATION STUDY?

15 A. Sebring's distribution construction standards are the same as REA construction standards.
16 In fact, the Sebring standards manual is a reproduction of the REA standards manual.

17 Q. HOW WAS THE ACCUMULATED DEPRECIATION CALCULATED?

18 A. The original cost for each year was broken down into the appropriate FERC account.
19 The depreciation rate for each FERC account was multiplied by the number of years of
20 depreciation and this result was multiplied by the original cost for each FERC account.
21 In those instances where accumulated depreciation equaled original cost, indicating that
22 the assets were fully depreciated, net book value was set to zero.

23 **STUDY RESULTS**

24 Q. WHAT ARE THE RESULTS OF RMI'S VALUATION STUDY?

25 A. Our valuation study concludes that the net book value of the tangible property, plant and

1 equipment assets being acquired by Florida Power Corporation is \$15,429,039 and the
2 assets being acquired by the City of Sebring is \$382,967. The total net book value of
3 the system's tangible property, plant and equipment assets is \$15,812,006. My Exhibit
4 DJR-2 is a summary of this valuation. These values do not include adjustments for
5 contributions in aid of construction (CIAC) and do not take into account current assets,
6 or accrued unbilled revenue. As is addressed in the audited financial statement and the
7 testimony of Nancy Holloway, when current assets and accrued unbilled revenues are
8 accounted for and CIAC adjustments are made, the net book value of the tangible assets
9 is \$17,813,753.

10 **Q. IS YOUR VALUATION OF DISTRIBUTION PLANT CONSISTENT WITH**
11 **OTHER MUNICIPAL SYSTEMS WITHIN THE INDUSTRY?**

12 A. Yes. As set forth on page 8 of my Exhibit No. DJR-2, the net book value of the
13 distribution plant (\$14,193,450) per customer is \$1,109. This is consistent with other
14 municipal utilities, both in Florida and across the nation.

15 **Q. IS THIS NET BOOK VALUE STATED BY RMI CONSISTENT WITH RMI'S**
16 **INITIAL RANDOM SAMPLING OF THE 53 SEBRING WORK ORDER FILES**
17 **THAT PRECIPITATED THE FORMAL STUDY?**

18 A. Yes. The system value developed based on the sample of 53 jobs is consistent with the
19 system net book value developed with the full inventory approach described above.

20 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

21 A. Yes.

SINGLE PHASE

Tangent, Pole Top Pin
Tangent, Cross Arm
Angle, Dead End or Double Dead End

TWO PHASE - 2/0 or SMALLER

Tangent, Cross Arm
Tangent, Vertical
Angle, Dead End or Double Dead End, Double Cross Arm
Angle, Dead End or Double Dead End, Triple Cross Arm
Angle, Dead End or Double Dead End, Vertical

TWO PHASE - 4/0 or LARGER

Tangent, Cross Arm
Tangent, Vertical
Angle, Dead End or Double Dead End, Double Cross Arm
Angle, Dead End or Double Dead End, Triple Cross Arm
Angle, Dead End or Double Dead End, Vertical

THREE PHASE - 2/0 or SMALLER

Tangent, Cross Arm
Tangent, Vertical or Triangle
Angle, Dead End or Double Dead End, Double Cross Arm
Angle, Dead End or Double Dead End, Triple Cross Arm
Angle, Dead End or Double Dead End, Vertical

THREE PHASE - 4/0 or LARGER

Tangent, Cross Arm
Tangent, Vertical or Triangle
Angle, Dead End or Double Dead End, Double Cross Arm
Angle, Dead End or Double Dead End, Triple Cross Arm
Angle, Dead End or Double Dead End, Vertical

Lightning Arrestor on L Bracket

Down Guy, 1 phase
Down Guy, 2 or 3 phase, Cross Arm, 2/0 or Smaller
Down Guy, 2 or 3 phase, Cross Arm, 4/0 or Larger
Down Guy, 2 or 3 phase, Vert, 2/0 or Smaller
Down Guy, 2 or 3 phase, Vert, 4/0 or Larger
One Phase Tap
Two Phase Tap
Three Phase Tap
Transformer or Regulator Platform
In-Line 3 Phase Disconnect Switch
Pole Mounted 3 Phase Disconnect Switch
Gang Operated Air Break Switch (GOAB)
3-Way GOAB
Cut-Outs, per Phase
Cross Arm Mounted 3 Phase Disconnect Switch
Cut-Out plus Lightning Arrestor, per Phase
3 Phase Capacitor
1 Phase Capacitor, per Phase
2 Wire Service
3 Wire Service
4 Wire Service

Span Guy, 1 Phase
Span Guy, Horizontal Dead End or 2 Phase Vertical
Span Guy, 3 Phase Vertical
Recloser, 1 Phase w/cut-outs
Recloser, 3 Phase
Street Light, 100 or 175 W
Street Light, 150 W
Street Light, 250 W
Street Light, 400 W
Street Light, 1000 W
Street Light, 1500 W
Street Light, 70 W plus Fiberglass Pole
Secondary Riser
One Phase Riser
Two Phase Riser
Three Phase Riser

Secondary, Open Wire, Tangent
Secondary, Open Wire, Deadend
Secondary, Cable, Tangent
Secondary, Cable, Deadend

Single Transformer, Conventional
Single Transformer, CSP
2 Pot Conventional
2 Pot CSP
3 Pot Horizontal Primary
3 Pot Vertical Primary

Wood Pole, 30' - 35'
Wood Pole, 40' - 45'
Wood Pole, 50' - 55'
Wood Pole, 60' - 65'

Concrete Pole, 30' -35'
Concrete Pole, 40' - 45'
Concrete Pole, Large (Class 2 or 3)

UNDERGROUND

Trench & Backfill for Conduit
Install Conduit in Trench
Install Cable in Conduit
Direct Bury, Trench and Cable
Set 1 Phase Transformer and Connect
Set 3 Phase Transformer & Connect, Radial
Set 3 Phase Transformer & Connect, Loop
Secondary or Service Pedestal
MultiTap, 3 or 4 Wire
Pad Mount Switch Gear
UG 3 Wire Service
UG 4 Wire Service

Install CT Metering (OH & UG)
Install Primary Termination Enclosure Assembly (PTEA)

**SEBRING UTILITIES COMMISSION
DISTRIBUTION SYSTEM VALUATION**

**Prepared for
Sebring Utilities Commission**

**Prepared by
Resource Management International, Inc.
Unpublished Work (c) June 1992**



RESOURCE MANAGEMENT
INTERNATIONAL, INC.

June 23, 1992

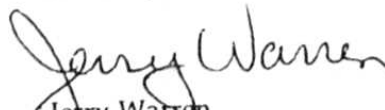
Mr. Ned Hancock, Chairman
Sebring Utilities Commission
321 Mango Street
Sebring, FL 33871-0871

Dear Mr. Hancock:

Attached you will find the final report and certification of the value of the Sebring Utilities Commission (SUC) distribution system prepared by Resource Management International, Inc. (RMI). We have determined this value as of September 30, 1991 and placed a value on the assets under consideration for sale to Florida Power Corporation as well as the assets under consideration for sale to the City of Sebring. It is our understanding that the City of Sebring will acquire the Park Street substation. However, this asset was specifically excluded from the valuation.

RMI believes this study presents a fair and reasonable value of the remaining assets of SUC. RMI followed generally accepted industry practices in developing the value and, where possible, included information from SUC's own books and records. Exhibit 1 to this report contains a summary of the value developed by RMI for the assets being acquired by FPC and Exhibit 2 contains similar information for the assets being acquired by the City of Sebring.

Sincerely,


Jerry Warren
Vice President

Enclosures

CERTIFICATION

I hereby certify that I, David J. Rumolo, do not have, nor have had in the past, nor do I contemplate having in the future, any personal interest in the properties evaluated; that neither the employment to evaluate nor the compensation agreed upon is in any manner contingent upon the valuation given; that all statements and data in the report were prepared by me or under my supervision and are, to the best of my knowledge and belief, true and correct. I was assisted in undertaking this value analysis by Mr. Tom Reedy. In my opinion, the values below represent the Sebring Utilities Commission electric utility properties as constructed by or on behalf of the Sebring Utilities Commission, excluding the Park Street Substation, as of September 30, 1991.

Estimated Original Cost	\$22,445,147
Estimated Depreciation	\$6,633,140
Net Plant In Service	\$15,812,007

Dated: June 5, 1992

RESOURCE MANAGEMENT INTERNATIONAL, INC.

By:



David J. Rumolo, P. E.



RMI

RESOURCE MANAGEMENT
INTERNATIONAL, INC.

SEBRING UTILITIES COMMISSION

Distribution System Valuation

INTRODUCTION

Until early 1991, Sebring Utilities Commission (SUC) was a municipal water and electric utility with generation, transmission and distribution assets. Since that time SUC has sold the generation assets to Tampa Electric Company and agreed to sell the water system to the City of Sebring. The remaining assets are in the process of being purchased by Florida Power Corporation (FPC).

The remaining assets under consideration by FPC include a transmission line, distribution portions of two substations, overhead and underground distribution facilities, the administration building, various trucks and other vehicles, radios, tools and shop equipment and office furniture and equipment. FPC has specifically excluded the Park Street substation from consideration in this transaction.

To assist in establishing the net book value of the assets being acquired by FPC, Resource Management International, Inc. (RMI) was retained to perform a valuation of those assets. RMI is a national and international consulting firm specializing in services to the electric utility industry. RMI has performed system valuations for other similar municipal utility systems.

INVENTORY OF THE SUC SYSTEM

As part of previous activities connected with the purchase of the remaining assets, FPC performed a detailed field survey to establish the total quantity and age of the distribution facilities. This effort produced a detailed list of materials needed to construct this system as well as a listing of the various devices and line configuration on a pole-by-pole basis.

The tool used by FPC to compile the data and produce the list of materials was their Automated Construction Estimating program or ACE. FPC and contract personnel skilled at preparing the ACE coding sheets were used to perform the field inventory. This process entailed going from pole to pole and writing down the ACE codes necessary to "construct" the pole as currently configured. In addition, the span lengths were measured by the field personnel and each pole was spray-painted with an identifying mark to protect against double counting. This approach produced a snapshot of the SUC system as currently configured rather than a chronological representation of the development of the system.

Throughout the inventory process, RMI participated in Quality Control checks on its own and in cooperation with FPC and SUC. At periodic intervals during the field

work, ACE code sheets were pulled at random from those turned in and a QC team composed of representatives of RMI, FPC and SUC verified the codes recorded. The overall accuracy of the ACE coding was excellent. Few discrepancies were found and those that were found were usually minor.

RMI also performed checks on its own to verify that the ACE code sheets prepared in the field were properly entered into the computer. ACE code sheets pulled randomly from the total set of code sheets were compared to their corresponding computer entry. Like the field coding, discrepancies, when found, were usually minor. RMI did find, however, that approximately 25 ACE locations had been inadvertently missed during the computer entry process. As described below, RMI accounted for these locations during the valuation process.

Given the magnitude of the task of inventorying an entire system, RMI believes that the FPC inventory of the SUC system is of reasonable quality and appropriate accuracy for the purposes of placing a value on the SUC system.

ESTIMATE OF SYSTEM VALUE

FPC provided RMI with a computer file containing the list of materials generated by ACE for reproduction of the SUC system. The materials necessary to construct the missing 25 ACE locations described above were added to this list. RMI, with the assistance of SUC staff, developed current unit prices for each of the items on the material list. The unit prices represented costs as close to September 30, 1991 as possible and included appropriate stores and purchasing overheads. This unit price multiplied by the number of units in any given year produced the reproduction cost of materials necessary to build the SUC system. These reproduction costs were then restated into original cost using the Handi-Whitman index appropriate for the given item and the given year of vintage. Finally, accumulated depreciation was calculated using the depreciation rates given in Table 1.

TABLE 1

DEPRECIATION RATES		
FERC Account	Description	Rate (%)
355	Poles (Transmission)	2.75
356	Overhead Conductor (Transmission)	2.75
361	Structures & Improvements (Substation)	2.70
362	Station Equipment (Substation)	2.70
364	Poles	3.00

DEPRECIATION RATES		
FERC Account	Description	Rate (%)
365	Overhead Conductor	2.30
366	Underground Conduit	1.80
367	Underground Conductor	2.40
368	Line Transformers	2.60
369	Services	3.10
370	Meters	2.90
373	Street Lighting	3.80
390	Structures & Improvements (Gen Plant)	2.00
391	Office Furniture & Equipment	5.00
392	Transportation Equipment	10.00
394	Tools, Shop & Garage Equipment	3.60
397	Communication Equipment	5.00

To determine the proper labor and vehicle charges to reproduce the SUC system, RMI used the printouts from ACE showing the FPC assembly units location by location. No computer file with this information was available so RMI and SUC staff developed SUC specific labor assembly units and manually translated from the ACE printouts to a RMI coding form. In addition, the 25 missing ACE locations were translated from the field coding sheet to the RMI coding form.

The SUC-specific assembly units and their corresponding labor and vehicle charges were developed jointly by RMI and knowledgeable SUC transmission and distribution engineering staff. These labor and vehicle charges represent the best estimate of what it would take SUC, using SUC work practices, to reproduce each of these assembly units. These labor charges represent real world considerations such as working around energized primary, construction in backyard easements, travel time to and from the job site, materials handling time and appropriate A&G and payroll overheads.

Once the labor and vehicle assembly units were developed, the ACE printouts were reviewed on a location by location basis, the configuration of the pole and the type of equipment installed were interpreted and an appropriate SUC-specific code was entered on a RMI coding sheet. This data was entered into the computer and the reproduction cost of each assembly unit was multiplied by the number of the assembly units in any given year. Like the material cost explained above, this reproduction cost was then

restated into the appropriate original cost using the Handi-Whitman index and accumulated depreciation was calculated.

The combination of labor, vehicle and materials costs yielded the original cost, accumulated depreciation and net book value of the SUC distribution system. In addition to the distribution system, RMI also placed a value on the Lakewood to Sun-n-Lake transmission line, Lakewood substation and various general plant assets being acquired by FPC. Information from specific work orders and other records of SUC was used to develop the value of these assets. Because of the age of the Dinner Lake substation and the lack of records, RMI prepared an estimate of the cost to SUC to have a contractor replicate the entire distribution substation. Also, in order to provide a complete statement of the value of the remaining assets, RMI valued the general plant assets **not** being acquired by FPC by examining SUC work orders and other records.

The value of Construction Work in Progress (CWIP) was determined by examining the detailed printout from SUC's accounting system for each job. Appropriate adjustments were made for A&G and payroll overheads, vehicle charges, stores overhead and purchasing overhead. These restated work orders were then summed to produce the CWIP for the electric system. General plant CWIP consists of a lease purchase payment for a copier.

RESULTS

Exhibit 1 shows the estimated value determined by RMI, based on the work practices employed by SUC, for the assets acquired by FPC. After determining the original cost, RMI applied the above depreciation rates and, based on the year place in service, determined the accumulated depreciation. Net book value is the original cost less accumulated depreciation. Exhibit 2 provides similar detail for the estimated value of the assets being acquired by the City of Sebring.

EXHIBIT 1

SEBRING UTILITIES COMMISSION
 Distribution System Valuation

Determined by RMI
 Assets Acquired by FPC

	Original Cost	Accumulated Depreciation	Net Book Value
TRANSMISSION PLANT:			
355 Poles & Fixtures	123,923	8,520	115,403
356 OH Conductor & Devices	429,306	29,515	399,791
Subtotal Transmission Plant	553,230	38,035	515,195
DISTRIBUTION PLANT:			
360 Land & Land Rights	32,209	0	32,209
361 Struct & Improv	141,898	31,152	110,746
362 Station Equipment	2,233,157	402,148	1,831,009
364 Poles	3,648,662	1,414,456	2,234,206
365 OH Conductor & Devices	4,343,813	1,297,387	3,046,426
366 UG Conduit	72,027	8,676	63,351
367 UG Conductor & Devices	2,932,021	524,150	2,407,871
368 Transformers	3,558,057	1,053,493	2,504,564
369 Services	1,191,977	482,717	709,260
370 Meters	1,212,956	265,940	947,016
373 Street Lighting	538,807	232,015	306,792
Subtotal Distribution Plant	19,905,584	5,712,134	14,193,450
Value of Distribution Plant per Residential Customer	\$1,555	\$446	\$1,109
GENERAL PLANT:			
389 Land & Land Rights	35,458	0	35,458
390 Structures	240,984	40,060	200,924
391 Office Furn & Equip	57,188	32,883	24,305
392 Transportation Equip	201,246	129,546	71,701
394 Tools & Equipment	133,841	36,137	97,704
397 Communication Equipment	18,631	5,089	13,542
Subtotal General Plant	687,348	243,715	443,633
CONSTRUCTION WORK IN PROGRESS:			
Electric Plant	275,383	0	275,383
General Plant	1,379	0	1,379
Subtotal CWIP	276,762	0	276,762
TOTAL SYSTEM VALUE DETERMINED BY RMI	21,422,923	5,993,883	15,429,039

RMI

EXHIBIT 2

SEBRING UTILITIES COMMISSION
 Distribution System Valuation

Assets Acquired by the City

	Original Cost	Accumulated Depreciation	Net Book Value
GENERAL PLANT:			
389 Land & Land Rights	0	0	0
390 Structures	26,996	1,809	25,187
391 Office Furn & Equip	95,183	54,730	40,453
392 Transportation Equip	748,881	539,208	209,673
394 Tools & Equipment	114,345	30,873	83,472
397 Communication Equipment	36,819	12,637	24,182
Subtotal General Plant	1,022,224	639,257	382,967