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February 14, 1992

HAND DELIVERY

Mr. Steve Tribble, Director
Division of Records and Reporting
Florida Public Service Commission
101 East Gaines Street
Tallahassee, Florida 32301

ORIGINAL
FILE COPY

920136-EG

Re: Petition of Tampa Electric Company
for Approval of Residential Air
Distribution System Efficiency Program

Dear Mr. Tribble:

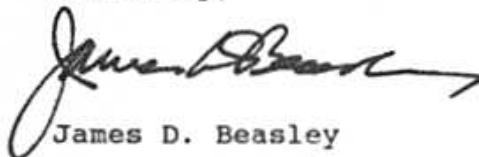
EI 806

Enclosed for filing in the above-referenced docket are fifteen (15) copies of a Petition for Approval of Residential Air Distribution System Efficiency Program on behalf of Tampa Electric Company.

Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning same to this writer.

Thank you for your assistance in connection with this matter.

Sincerely,


James D. Beasley

JDB/bjb

RECEIVED & FILED


FPSC BUREAU OF RECORDS

DOCUMENT NUMBER-DATE

01617 FEB 14 1992

FPSC-RECORDS/REPORTING

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of Tampa Electric)
Company for Approval of Residential)
Air Distribution System Efficiency)
Program.)
_____)

DOCKET NO. _____
Submitted for Filing:
2/14/92

**PETITION OF TAMPA ELECTRIC COMPANY
FOR APPROVAL OF RESIDENTIAL AIR
DISTRIBUTION SYSTEM EFFICIENCY PROGRAM**

Tampa Electric Company ("Tampa Electric" or "the company") petitions the Commission for approval of the company's proposed Residential Air Distribution System Efficiency Program and in support thereof, says:

1. Tampa Electric is a Commission regulated electric utility whose principal offices are located at 702 North Franklin Street, Tampa, Florida 33602. The company serves retail electric Customers in Hillsborough and portions of Polk, Pinellas and Pasco Counties in Florida.

2. Any pleadings, motions, notices, orders, or other documents required to be served on petitioner should be forwarded to:

Mr. Russell D. Chapman
Manager, Regulatory
Coordination
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601

Mr. Lee L. Willis
Mr. James D. Beasley
Ausley, McMullen, McGehee,
Carothers and Proctor
Post Office Box 391
Tallahassee, Florida 32302

3. Tampa Electric is not aware of any disputed issues of material fact relative to this petition. The rules and statutes which entitle Tampa Electric to approval of this program are the Florida Energy Efficiency and Conservation Act (Sections 366.80-

DOCUMENT NUMBER-DATE

01617 FEB 14 1992

FPSC-RECORDS/REPORTING

366.85 and 403.519, Fla. Stat.) and the Commission rules implementing such Act as set forth in Fla. Admin. Code Chapter 25-17.

4. The company proposes a conservation program entitled Residential Air Distribution System Efficiency which will become an integral part of Tampa Electric's existing residential energy audits which are free and comprehensive. This conservation program is designed to save demand and energy by decreasing the load on residential heating and air conditioning ("HVAC") equipment.

5. This program will identify areas of HVAC air distribution losses by inspecting the "air distribution system" (i.e., the air handler, air ducts, return plenums, supply plenums, and any connecting structure). The analyst will locate leaks by inspecting the system visually with a smoke generator while the HVAC air handler is operating. Upon completion of the inspection the Customer will receive information on any problems located along with an indication of the magnitude of the problem (either major or minor). The Customer will also receive a certificate which can be used as partial payment when repair is performed by an HVAC contractor.

6. Major repairs are defined as repairs of the air distribution system ("ADS") involving materials such as duct board used to seal plenums and more involved repair techniques (e. g., attaching ducts that are completely off or entering the ADS to reach problem areas).

7. Minor repairs are defined as repairs of the ADS where

simple mastic techniques (adhesive with fabric reinforced tape) are used.

8. Participation standards for the proposed Residential Air Distribution System Efficiency Program are as follows:

1. Any residential Customer is eligible; however, a new residence under warranty will not be eligible for an incentive.
2. Home must have a residential energy audit (free or comprehensive).
3. Home must have a central ducted HVAC system that is accessible for inspection and repair.
4. Repair must be performed by a participating contractor.
5. In addition to repairs, all joints, connections, and seams in ADS must be sealed by mastic techniques (adhesive with fabric reinforced tape).

9. Tampa Electric has calculated that the program benefits and costs are expected to be as follows:

| <u>Benefits</u> | <u>Minor Repairs</u> | <u>Major Repairs</u> |
|-----------------|----------------------|----------------------|
| Demand: Winter | .55 KW | 1.41 KW |
| Summer | .15 KW | .40 KW |
| Energy: Annual | 600 KWH | 1546 KWH |
| <u>Costs</u> | | |
| Incentive | 100.00 | 175.00 |
| Administrative | <u>25.00</u> | <u>25.00</u> |
| Total | \$125.00 | \$200.00 |

10. In performing the above cost benefit analysis, Tampa Electric made the following assumptions:

1. Florida Solar Energy Center (FSEC) winter connected load demand reduction is estimated to be 1.6 KW.
2. Duct repair reduces Tampa Electric diversified A/C demand by 13%.

3. Annual energy reduction is 17.2% (FSEC estimate).
4. Based on FSEC estimates, 70 - 80% of ADS leaks can realistically be repaired. Due to our specified method of repair, we assume 80%.
5. The heat source for participants is 95% electric and 5% other fuels.

11. Program monitoring will consist of sampling Customers who have had systems repaired. Program evaluation will be by sample comparison of annual energy usage for 12 months before and after repairs.

12. Attached hereto as Exhibit "A" is Tampa Electric's Program Savings Calculations for the proposed Residential Air Distribution System Efficiency Program.

13. Attached hereto as Exhibit "B" is a listing of the procedures to be applied by Tampa Electric under the proposed program.

14. Attached hereto as Exhibit "C" is a description of the Residential Air Distribution System Efficiency Program inspection procedures.

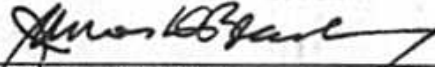
15. Attached hereto as Exhibits "D" and "E" are the cost effectiveness calculations for the minor and major repair scenarios, respectively.

16. The proposed conservation program is expected to be of significant benefit within Tampa Electric's service area, and the company urges that the Commission approve this program to become effective on July 1, 1992.

WHEREFORE, Tampa Electric Company urges the Commission to approve the company's proposed Residential Air Distribution System Efficiency Program.

DATED this 14th day of February, 1992.

Respectfully submitted,



LEE L. WILLIS
JAMES D. BEASLEY
Ausley, McMullen, McGehee,
Carothers and Proctor
Post Office Box 391
Tallahassee, Florida 32302
(904) 224-9115

Attorneys for Tampa Electric Company

TEC\ResidAir.Pet

**Residential Air Distribution System Efficiency
Program Savings Calculations**

Winter Demand

Florida Solar Energy Center connected load demand reduction: 1.6 KW

Tampa Electric diversity factor: .79

Estimated winter diversified demand reduction: $(1.6) (.79) = 1.26$
KW

Summer Demand

Tampa Electric average diversified load: 2.64 KW

Assume duct repair reduces diversified A/C demand by 13%.

Estimated summer KW reduction: $(2.64) (.13) = .34$ KW

Energy

Heating

(KW weighted average connected load) x (KW x run time) x
(percent saving from FSECO-CR-397-91)

$(6.62) (400) (.172) = 455$ KWH

Cooling

(KW connected load) x (run time) x (percent savings)

$(4.0) (1250) (.172) = 860$ KWH

Total Energy 1315 KWH

Adjustments

Based on FSEC-CR-397-91 only 70-80% of repairs can realistically be performed. We assumed 80%. In addition, we assumed 5% of homes repaired are heated with fuels other than electric.

Exhibit "A"

00001

Average Savings

Winter Demand
(1.26) (.80) (.95) = .96 KW

Summer Demand
(.34) (.80) = .27 KW

Energy
(1315) (.80) = 1052 KWH

Minor repairs 57% of average (based on TECO sample of CFM 50 tests)

Winter Demand
(.57) (.96) = .55 KW

Summer Demand
(.57) (.27) = .15 KW

Energy
(.57) (1052) = 600 KWH

Major repairs 147% of average (based on TECO sample of CFM 50 tests)

Winter Demand
(1.47) (.96) = 1.41 KW

Summer Demand
(1.47) (.27) = .40 KW

Energy
(1.47) (1052) = 1546 KWH

**Procedures - Residential Air Distribution
System Efficiency Program**

1. Customer must meet the following requirements in order to qualify for residential air distribution efficiency incentive.
 - A. Home must have a free energy check of \$15.00 energy survey.
 - B. Home cannot be covered under new home warranty.
 - C. Customer must have repairs performed by a participating HVAC contractor. Repairs must be sealed with mastic or mastic and fab-glass.
 - D. In addition to repairs, all joints, connections, and seams in "air distribution system" (ADS) must be sealed with mastic and fab-glass techniques.
2. If qualified, Customer receives appropriate certificate to assist with payment of ADS repairs. Customer also receives a list of participating HVAC contractors.
3. Customer repairs ADS.
 - A. Customer gives certificate to contractor as partial payment for repair, HVAC contractor sends certificate to TECO for payment.
 - B. Upon receiving HVAC contractor's request for payment Tampa Electric will randomly inspect repairs, (inspection guidelines are in accordance with Florida Administrative Code Rule 25-17.056) and process payment.

Exhibit "B"

00003

**Residential Air Distribution System
Efficiency Program Inspection Procedure**

1. The inspector assigned should be different from the analyst who issued incentive certificate.
2. The inspector provides the Customer with proper identification, and briefly explains the inspection procedures.
3. Inspector verifies with Customer that HVAC contractor discounted appropriate amount from total cost of repair.
4. Inspector verifies with smoke generator, (air handler on) that all ADS leaks have been repaired.
 - A. If inspection fails
 1. Inspector will explain to Customer the nature of failure and notify HVAC contractor.
 2. Inspection form and request for payment will be held at Demand Side Planning. Payment will not be issued until HVAC contractor repairs problems.
 - B. If inspection is approved
 1. Demand Side Planning approves payment and initiates a check request to be sent to General Accounting.

Exhibit "C"

00004

I. PROGRAM DEMAND SAVINGS AND LINE LOSSES

| | |
|--|------------------|
| (1) CUSTOMER KW REDUCTION AT THE METER | 0.55 KW /CUST |
| (2) GENERATOR KW REDUCTION PER CUSTOMER | 0.38 KW GEN/CUST |
| (3) KW LINE LOSS PERCENTAGE | 8.0 % |
| (4) GENERATION KWH REDUCTION PER CUSTOMER | 632 KWH/CUST/YR |
| (5) KWH LINE LOSS PERCENTAGE | 5.0 % |
| (6) GROUP LINE LOSS MULTIPLIER | 1.0000 |
| (7) CUSTOMER KWH PROGRAM INCREASE AT METER | 0.0 KWH/CUST/YR |
| (8)* CUSTOMER KWH REDUCTION AT METER | 600 KWH/CUST/YR |

II. ECONOMIC LIFE AND K FACTORS

| | |
|---|----------|
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM | 39 YEARS |
| (2) GENERATOR ECONOMIC LIFE | 30 YEARS |
| (3) T & D ECONOMIC LIFE | 30 YEARS |
| (4) K FACTOR FOR GENERATION | 1.6980 |
| (5) K FACTOR FOR T & D | 1.6980 |
| (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1) | 0 |

III. UTILITY AND CUSTOMER COSTS

| | |
|---|-----------------|
| (1) UTILITY NONRECURRING COST PER CUSTOMER ... | 125.00 \$/CUST |
| (2) UTILITY RECURRING COST PER CUSTOMER | 0.00 \$/CUST/YR |
| (3) UTILITY COST ESCALATION RATE | 4.8 % |
| (4) CUSTOMER EQUIPMENT COST | 150.00 \$/CUST |
| (5) CUSTOMER EQUIPMENT ESCALATION RATE | 4.8 % |
| (6) CUSTOMER O & M COST | 0.00 \$/CUST/YR |
| (7) CUSTOMER O & M ESCALATION RATE | 4.8 % |
| (8)* CUSTOMER TAX CREDIT PER INSTALLATION | 0.00 \$/CUST |
| (9)* CUSTOMER TAX CREDIT ESCALATION RATE | 0.0 % |
| (10)* INCREASED SUPPLY COSTS | 0.00 \$/CUST/YR |
| (11)* SUPPLY COSTS ESCALATION RATE | 0.0 % |
| (12)* UTILITY DISCOUNT RATE | 10.06% |
| (13)* UTILITY AFUDC RATE | 7.93% |
| (14)* UTILITY NON RECURRING REBATE/INCENTIVE .. | 100.00 \$/CUST |
| (15)* UTILITY RECURRING REBATE/INCENTIVE | 0.00 \$/CUST/YR |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE | 0.0 % |

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS

| | |
|--|-----------------|
| (1) BASE YEAR | 1992 |
| (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT | 2001 |
| (3) IN-SERVICE YEAR FOR AVOIDED T & D | 2001 |
| (4) BASE YEAR AVOIDED GENERATING UNIT COST | 595.70 \$/KW |
| (5) BASE YEAR AVOIDED TRANSMISSION COST | 0.00 \$/KW |
| (6) BASE YEAR DISTRIBUTION COST | 0.00 \$/KW |
| (7) GEN, TRAN, & DIST COST ESCALATION RATE | 4.7 % |
| (8) GENERATOR FIXED O & M COST | 4.22 \$/KW/YR |
| (9) GENERATOR FIXED O&M ESCALATION RATE | 4.5 % |
| (10) TRANSMISSION FIXED O & M COST | 0.00 \$/KW/YR |
| (11) DISTRIBUTION FIXED O & M COST | 0.00 \$/KW/YR |
| (12) T&D FIXED O&M ESCALATION RATE | 0.0 % |
| (13) AVOIDED GEN UNIT VARIABLE O & M COSTS | 0.433 CENTS/KWH |
| (14) GENERATOR VARIABLE O&M COST ESCALATION RATE | 4.5 % |
| (15) GENERATOR CAPACITY FACTOR | 20 % |
| (16) AVOIDED GENERATING UNIT FUEL COST | 2.067 CENTS/KWH |
| (17) AVOIDED GEN UNIT FUEL ESCALATION RATE | 6.98 % |
| (18)* AVOIDED PURCHASE CAPACITY COST PER KW | 0.00 \$/KW/YR |
| (19)* CAPACITY COST ESCALATION RATE | 0.0 % |

V. NON-FUEL ENERGY AND DEMAND CHARGES

| | |
|---|-----------------|
| (1) NON-FUEL COST IN CUSTOMER BILL | 4.334 CENTS/KWH |
| (2) NON-FUEL ESCALATION RATE | 3.7 % |
| (3) CUSTOMER DEMAND CHARGE PER KW | 0.00 \$/KW/MO |
| (4) DEMAND CHARGE ESCALATION RATE | 0.0 % |
| (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT | 1.0 |
| FACTOR FOR CUSTOMER BILL | |

Exhibit "D"

00005

CALCULATION OF K FACTOR
2001 AVOIDED COMBINE CYCLE

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13)* |
|---------------|----------------------------|--------------|-------------------------|-----------------------|----------------------|---------------------------------|-----------------------------|------------------------|-----------------------------|-------------------------------------|-------------------------------------|----------------------------|
| CALENDAR YEAR | MID-YEAR RATE-BASE (\$000) | DEBT (\$000) | PREFERRED STOCK (\$000) | COMMON EQUITY (\$000) | INCOME TAXES (\$000) | OTHER TAXES & INSURANCE (\$000) | BOOK DEPREC EXPENSE (\$000) | DEFERRED TAXES (\$000) | TOTAL FIXED CHARGES (\$000) | PRESENT WORTH FIXED CHARGES (\$000) | CUMULATIVE PW FIXED CHARGES (\$000) | TOTAL FIXED CHARGES (P.U.) |
| 1 | 2001 | 223,043 | 8,872 | 343 | 16,561 | 10,199 | 5,675 | 7,567 | 356 | 49,217 | 49,217 | 0.2168 |
| 2 | 2002 | 213,638 | 8,497 | 329 | 15,863 | 9,769 | 5,675 | 7,567 | 3,320 | 47,700 | 43,340 | 0.2101 |
| 3 | 2003 | 202,982 | 8,074 | 313 | 15,071 | 9,282 | 5,675 | 7,567 | 2,859 | 45,981 | 37,960 | 0.2026 |
| 4 | 2004 | 192,770 | 7,667 | 297 | 14,313 | 8,815 | 5,675 | 7,567 | 2,432 | 44,334 | 33,255 | 0.1953 |
| 5 | 2005 | 182,972 | 7,278 | 282 | 13,586 | 8,367 | 5,675 | 7,567 | 2,030 | 42,754 | 29,138 | 0.1883 |
| 6 | 2006 | 173,559 | 6,903 | 267 | 12,887 | 7,936 | 5,675 | 7,567 | 1,663 | 41,235 | 25,535 | 0.1817 |
| 7 | 2007 | 164,495 | 6,543 | 253 | 12,214 | 7,522 | 5,675 | 7,567 | 1,330 | 39,774 | 22,378 | 0.1752 |
| 8 | 2008 | 155,757 | 6,195 | 240 | 11,565 | 7,122 | 5,675 | 7,567 | 1,014 | 38,364 | 19,612 | 0.1690 |
| 9 | 2009 | 147,202 | 5,855 | 227 | 10,930 | 6,731 | 5,675 | 7,567 | 962 | 36,984 | 17,179 | 0.1629 |
| 10 | 2010 | 138,673 | 5,516 | 214 | 10,296 | 6,341 | 5,675 | 7,567 | 962 | 35,609 | 15,028 | 0.1569 |
| 11 | 2011 | 130,144 | 5,176 | 200 | 9,663 | 5,951 | 5,675 | 7,567 | 962 | 34,233 | 13,127 | 0.1508 |
| 12 | 2012 | 121,614 | 4,837 | 187 | 9,030 | 5,561 | 5,675 | 7,567 | 962 | 32,857 | 11,448 | 0.1447 |
| 13 | 2013 | 113,085 | 4,498 | 174 | 8,397 | 5,171 | 5,675 | 7,567 | 962 | 31,482 | 9,966 | 0.1387 |
| 14 | 2014 | 104,556 | 4,159 | 161 | 7,763 | 4,781 | 5,675 | 7,567 | 962 | 30,106 | 8,659 | 0.1326 |
| 15 | 2015 | 96,027 | 3,819 | 148 | 7,130 | 4,391 | 5,675 | 7,567 | 962 | 28,730 | 7,508 | 0.1266 |
| 16 | 2016 | 87,498 | 3,480 | 135 | 6,497 | 4,001 | 5,675 | 7,567 | 962 | 27,355 | 6,495 | 0.1205 |
| 17 | 2017 | 78,968 | 3,141 | 122 | 5,863 | 3,611 | 5,675 | 7,567 | 962 | 25,979 | 5,605 | 0.1144 |
| 18 | 2018 | 70,439 | 2,802 | 108 | 5,230 | 3,221 | 5,675 | 7,567 | 962 | 24,603 | 4,823 | 0.1084 |
| 19 | 2019 | 61,910 | 2,462 | 95 | 4,597 | 2,831 | 5,675 | 7,567 | 962 | 23,227 | 4,137 | 0.1023 |
| 20 | 2020 | 53,381 | 2,123 | 82 | 3,964 | 2,441 | 5,675 | 7,567 | 962 | 21,852 | 3,536 | 0.0963 |
| 21 | 2021 | 45,795 | 1,822 | 71 | 3,400 | 2,094 | 5,675 | 7,567 | (925) | 20,628 | 3,033 | 0.0909 |
| 22 | 2022 | 40,115 | 1,596 | 62 | 2,979 | 1,834 | 5,675 | 7,567 | (2,847) | 19,712 | 2,633 | 0.0868 |
| 23 | 2023 | 35,396 | 1,408 | 55 | 2,628 | 1,619 | 5,675 | 7,567 | (2,847) | 18,951 | 2,300 | 0.0835 |
| 24 | 2024 | 30,676 | 1,220 | 47 | 2,278 | 1,403 | 5,675 | 7,567 | (2,847) | 18,190 | 2,006 | 0.0801 |
| 25 | 2025 | 25,957 | 1,032 | 40 | 1,927 | 1,187 | 5,675 | 7,567 | (2,847) | 17,429 | 1,747 | 0.0768 |
| 26 | 2026 | 21,237 | 845 | 33 | 1,577 | 971 | 5,675 | 7,567 | (2,847) | 16,667 | 1,518 | 0.0734 |
| 27 | 2027 | 16,518 | 657 | 25 | 1,226 | 755 | 5,675 | 7,567 | (2,847) | 15,906 | 1,316 | 0.0701 |
| 28 | 2028 | 11,799 | 469 | 18 | 876 | 540 | 5,675 | 7,567 | (2,847) | 15,145 | 1,138 | 0.0667 |
| 29 | 2029 | 7,079 | 282 | 11 | 526 | 324 | 5,675 | 7,567 | (2,847) | 14,384 | 982 | 0.0634 |
| 30 | 2030 | 2,360 | 94 | 4 | 175 | 108 | 5,675 | 7,567 | (2,847) | 13,623 | 845 | 0.0600 |

90000

K FACTOR = CPWFC/IN-SVC COST = 385464 / 227004 = 1.6980

| | | | | | |
|----------------------------|-----------|-------------------------|-------|--------|-------------|
| IN-SERVICE COSTS (\$000) = | \$227,004 | CAPITALIZATION: | % | COST | COMPOSITE * |
| IN-SERVICE YEAR = | 2001 | DEBT | 43.0 | 9.25% | 3.98% |
| BOOK LIFE, YEARS = | 30 | PREFERRED STOCK | 2.0 | 7.70% | 0.15% |
| TAX LIFE, YRS = | 20 | COMMON EQUITY | 55.0 | 13.50% | 7.43% |
| EFFECTIVE TAX RATE = | 37.63% | | | | |
| OTHER TAXES & INS | 2.50% | | | | |
| | | TOTAL (1) * | 100.0 | | 11.56% |
| | | AFTER-TAX DISCOUNT RATE | | | 10.06% |

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|------|---------------------|--------------------|----------------------|--|----------------------------------|----------------------------------|----------------------------|
| YEAR | TAX DEPREC SCHEDULE | TAX DEPREC (\$000) | DEFERRED TAX (\$000) | END OF YEAR NET PLANT IN SERVICE (\$000) | BEGINNING YEAR RATE BASE (\$000) | ENDING OF YEAR RATE BASE (\$000) | MID-YEAR RATE-BASE (\$000) |
| 0 | | | | 227,004 | | | |
| 1 | 0.0375 | 8,513 | (2,847) | 219,437 | 227,004 | 219,081 | 223,043 |
| 2 | 0.0722 | 16,390 | (2,847) | 211,870 | 219,081 | 208,194 | 213,638 |
| 3 | 0.0668 | 15,164 | (2,847) | 204,304 | 208,194 | 197,769 | 202,982 |
| 4 | 0.0618 | 14,029 | (2,847) | 196,737 | 197,769 | 187,770 | 192,770 |
| 5 | 0.0571 | 12,962 | (2,847) | 189,170 | 187,770 | 178,173 | 182,972 |
| 6 | 0.0528 | 11,986 | (2,847) | 181,603 | 178,173 | 168,944 | 173,559 |
| 7 | 0.0489 | 11,100 | (2,847) | 174,036 | 168,944 | 160,047 | 164,495 |
| 8 | 0.0452 | 10,261 | (2,847) | 166,470 | 160,047 | 151,467 | 155,757 |
| 9 | 0.0446 | 10,124 | (2,847) | 158,903 | 151,467 | 142,938 | 147,202 |
| 10 | 0.0446 | 10,124 | (2,847) | 151,336 | 142,938 | 134,408 | 138,673 |
| 11 | 0.0446 | 10,124 | (2,847) | 143,769 | 134,408 | 125,879 | 130,144 |
| 12 | 0.0446 | 10,124 | (2,847) | 136,202 | 125,879 | 117,350 | 121,614 |
| 13 | 0.0446 | 10,124 | (2,847) | 128,636 | 117,350 | 108,821 | 113,085 |
| 14 | 0.0446 | 10,124 | (2,847) | 121,069 | 108,821 | 100,291 | 104,556 |
| 15 | 0.0446 | 10,124 | (2,847) | 113,502 | 100,291 | 91,762 | 96,027 |
| 16 | 0.0446 | 10,124 | (2,847) | 105,935 | 91,762 | 83,233 | 87,498 |
| 17 | 0.0446 | 10,124 | (2,847) | 98,368 | 83,233 | 74,704 | 78,968 |
| 18 | 0.0446 | 10,124 | (2,847) | 90,802 | 74,704 | 66,175 | 70,439 |
| 19 | 0.0446 | 10,124 | (2,847) | 83,235 | 66,175 | 57,645 | 61,910 |
| 20 | 0.0446 | 10,124 | (2,847) | 75,668 | 57,645 | 49,116 | 53,381 |
| 21 | 0.0225 | 5,108 | (2,847) | 68,101 | 49,116 | 42,475 | 45,795 |
| 22 | 0 | 0 | (2,847) | 60,534 | 42,475 | 37,755 | 40,115 |
| 23 | 0 | 0 | (2,847) | 52,968 | 37,755 | 33,036 | 35,396 |
| 24 | 0 | 0 | (2,847) | 45,401 | 33,036 | 28,316 | 30,676 |
| 25 | 0 | 0 | (2,047) | 37,834 | 28,316 | 23,597 | 25,957 |
| 26 | 0 | 0 | (2,847) | 30,267 | 23,597 | 18,878 | 21,237 |
| 27 | 0 | 0 | (2,847) | 22,700 | 18,878 | 14,158 | 16,518 |
| 28 | 0 | 0 | (2,847) | 15,134 | 14,158 | 9,439 | 11,799 |
| 29 | 0 | 0 | (2,847) | 7,567 | 9,439 | 4,719 | 7,079 |
| 30 | 0 | 0 | (2,847) | 0 | 4,719 | 0 | 2,360 |

1.0000

40000

CALCULATION OF AFUDC AND IN-SERVICE COST OF PLANT
PLANT: 2001 AVOIDED UNIT

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|------|----------------------------|---------------------------|------------------------------|------------------------|-------------------------|-------------------------------------|--|----------------------------|--|--|
| YEAR | MO. YEARS BEFORE INSERVICE | PLANT ESCALATION RATE (%) | CUMULATIVE ESCALATION FACTOR | YEARLY EXPENDITURE (%) | ANNUAL SPENDING (\$/KW) | CUMULATIVE AVERAGE SPENDING (\$/KW) | CUMULATIVE SPENDING WITH AFUDC (\$/KW) | YEARLY TOTAL AFUDC (\$/KW) | YEARLY INCREMENTAL YEAR-END BOOK VALUE (\$/KW) | CUMULATIVE YEAR-END BOOK VALUE (\$/KW) |
| 1992 | -9 | 0.0% | 1.0000 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1993 | -8 | 4.1% | 1.0410 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1994 | -7 | 4.4% | 1.0868 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1995 | -6 | 4.8% | 1.1390 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1996 | -5 | 4.8% | 1.1936 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1997 | -4 | 4.8% | 1.2509 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1998 | -3 | 4.8% | 1.3110 | 30.0% | 234.29 | 117.14 | 117.14 | 9.29 | 243.57 | 243.57 |
| 1999 | -2 | 4.8% | 1.3739 | 55.7% | 455.87 | 462.22 | 471.51 | 37.39 | 493.26 | 736.83 |
| 2000 | -1 | 4.8% | 1.4399 | 14.3% | 122.65 | 751.48 | 798.16 | 63.29 | 165.95 | 922.78 |
| 2001 | 0 | | | 0.0% | 0.00 | | | 0.00 | | |
| | | | | 1.00 | | | | 109.97 | | 922.78 |

IN-SERVICE YEAR = 2001

PLANT COSTS (1992 \$) \$595.70
AFUDC RATE: 7.93%

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|------|---|--|--|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE TOTAL PARTICIPATING CUSTOMERS | ADJUSTED CUMULATIVE PARTICIPATING CUSTOMERS | UTILITY AVERAGE SYSTEM FUEL COSTS (C/KWH) | AVOIDED MARGINAL FUEL COST (C/KWH) | INCREASED MARGINAL FUEL COST (C/KWH) | REPLACEMENT FUEL COST (C/KWH) | PROGRAM KW EFFECTIVENESS FACTOR | PROGRAM KWH EFFECTIVENESS FACTOR |
| 1992 | 500 | 500 | 2.43 | 2.27 | 1.82 | 2.07 | 1.00 | 1.00 |
| 1993 | 1,500 | 1,500 | 2.54 | 2.68 | 2.03 | 2.42 | 1.00 | 1.00 |
| 1994 | 2,500 | 2,500 | 2.67 | 3.24 | 2.25 | 3.03 | 1.00 | 1.00 |
| 1995 | 3,500 | 3,500 | 2.84 | 3.67 | 2.53 | 3.70 | 1.00 | 1.00 |
| 1996 | 4,500 | 4,500 | 2.91 | 3.67 | 2.52 | 4.45 | 1.00 | 1.00 |
| 1997 | 5,500 | 5,500 | 3.03 | 3.82 | 2.63 | 5.25 | 1.00 | 1.00 |
| 1998 | 6,500 | 6,500 | 3.23 | 4.73 | 2.99 | 5.71 | 1.00 | 1.00 |
| 1999 | 7,500 | 7,500 | 3.45 | 5.47 | 3.34 | 6.29 | 1.00 | 1.00 |
| 2000 | 8,500 | 8,500 | 3.60 | 5.63 | 3.54 | 6.84 | 1.00 | 1.00 |
| 2001 | 8,500 | 8,500 | 3.84 | 6.45 | 3.90 | 7.20 | 1.00 | 1.00 |
| 2002 | 8,500 | 8,500 | 4.27 | 8.17 | 4.71 | 8.15 | 1.00 | 1.00 |
| 2003 | 8,500 | 8,500 | 4.50 | 8.37 | 5.00 | 9.45 | 1.00 | 1.00 |
| 2004 | 8,500 | 8,500 | 4.86 | 9.88 | 5.59 | 10.25 | 1.00 | 1.00 |
| 2005 | 8,500 | 8,500 | 5.38 | 12.38 | 6.89 | 12.14 | 1.00 | 1.00 |
| 2006 | 8,500 | 8,500 | 5.83 | 14.10 | 7.68 | 13.97 | 1.00 | 1.00 |
| 2007 | 8,500 | 8,500 | 6.17 | 14.07 | 8.04 | 15.78 | 1.00 | 1.00 |
| 2008 | 8,500 | 8,500 | 6.66 | 14.90 | 8.86 | 16.02 | 1.00 | 1.00 |
| 2009 | 8,500 | 8,500 | 6.90 | 15.58 | 9.19 | 16.22 | 1.00 | 1.00 |
| 2010 | 8,500 | 8,500 | 7.47 | 17.23 | 10.40 | 16.65 | 1.00 | 1.00 |
| 2011 | 8,500 | 8,500 | 7.66 | 17.10 | 10.32 | 16.64 | 1.00 | 1.00 |
| 2012 | 8,500 | 8,500 | 8.10 | 17.52 | 10.70 | 17.40 | 1.00 | 1.00 |
| 2013 | 8,500 | 8,500 | 8.70 | 18.36 | 11.53 | 18.15 | 1.00 | 1.00 |
| 2014 | 8,500 | 8,500 | 8.94 | 18.55 | 11.51 | 18.33 | 1.00 | 1.00 |
| 2015 | 8,500 | 8,500 | 9.48 | 19.55 | 12.28 | 18.76 | 1.00 | 1.00 |
| 2016 | 8,500 | 8,500 | 10.00 | 20.39 | 12.67 | 19.38 | 1.00 | 1.00 |
| 2017 | 8,500 | 8,500 | 10.65 | 21.42 | 13.42 | 20.35 | 1.00 | 1.00 |
| 2018 | 8,500 | 8,500 | 11.60 | 22.74 | 14.61 | 21.80 | 1.00 | 1.00 |
| 2019 | 8,500 | 8,500 | 11.74 | 22.68 | 14.44 | 21.80 | 1.00 | 1.00 |
| 2020 | 8,500 | 8,500 | 12.14 | 22.97 | 15.07 | 21.80 | 1.00 | 1.00 |
| 2021 | 8,500 | 8,500 | 12.54 | 23.26 | 15.73 | 21.80 | 1.00 | 1.00 |
| 2022 | 8,500 | 8,500 | 12.96 | 23.99 | 16.42 | 22.40 | 1.00 | 1.00 |
| 2023 | 8,500 | 8,500 | 13.39 | 24.74 | 17.13 | 22.97 | 1.00 | 1.00 |
| 2024 | 8,500 | 8,500 | 13.84 | 25.51 | 17.88 | 23.51 | 1.00 | 1.00 |
| 2025 | 8,500 | 8,500 | 14.30 | 26.31 | 18.66 | 24.11 | 1.00 | 1.00 |
| 2026 | 8,500 | 8,500 | 14.78 | 27.14 | 19.48 | 24.72 | 1.00 | 1.00 |
| 2027 | 8,500 | 8,500 | 15.27 | 27.98 | 20.33 | 25.33 | 1.00 | 1.00 |
| 2028 | 8,500 | 8,500 | 15.78 | 28.86 | 21.22 | 25.89 | 1.00 | 1.00 |
| 2029 | 8,500 | 8,500 | 16.31 | 29.76 | 22.15 | 26.34 | 1.00 | 1.00 |
| 2030 | 8,500 | 8,500 | 16.85 | 30.69 | 23.11 | 26.84 | 1.00 | 1.00 |

60000

AVOIDED GENERATION UNIT BENEFITS
PROGRAM: RAUSE - MINOR

* UNIT SIZE OF AVOIDED GENERATION UNIT = 3,230.0 KW
* INSERVICE COSTS OF AVOIDED GEN. UNIT (000) \$2,980.6

| (1) | (1A)* REVENUE REQUIREMENT FACTOR | (2) AVOIDED GEN UNIT CAPACITY COST \$(000) | (2A)* AVOIDED ANNUAL UNIT KWH GEN (000) | (3) AVOIDED UNIT FIXED O&M COST \$(000) | (4) AVOIDED GEN UNIT VARIABLE O&M COST \$(000) | (5) AVOIDED GEN UNIT FUEL REPLACEMENT COST \$(000) | (6) FUEL REPLACEMENT FUEL COST \$(000) | (6A)* AVOIDED PURCHASED CAPACITY COSTS \$(000) | (7) AVOIDED GEN UNIT BENEFITS \$(000) |
|--------|---|---|--|--|---|---|---|---|---|
| 1992 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1993 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1994 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1995 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1996 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1997 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1998 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1999 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2001 | 0.217 | 646 | 5,659 | 20 | 36 | 215 | 407 | 0 | 510 |
| 2002 | 0.210 | 626 | 5,659 | 21 | 38 | 230 | 461 | 0 | 454 |
| 2003 | 0.203 | 604 | 5,659 | 22 | 40 | 246 | 535 | 0 | 377 |
| 2004 | 0.195 | 582 | 5,659 | 23 | 42 | 263 | 580 | 0 | 330 |
| 2005 | 0.188 | 561 | 5,659 | 24 | 43 | 281 | 687 | 0 | 223 |
| 2006 | 0.182 | 542 | 5,659 | 25 | 45 | 301 | 791 | 0 | 122 |
| 2007 | 0.175 | 522 | 5,659 | 26 | 47 | 322 | 893 | 0 | 25 |
| 2008 | 0.169 | 504 | 5,659 | 28 | 50 | 344 | 907 | 0 | 19 |
| 2009 | 0.163 | 486 | 5,659 | 29 | 52 | 368 | 918 | 0 | 17 |
| 2010 | 0.157 | 467 | 5,659 | 30 | 54 | 394 | 942 | 0 | 3 |
| 2011 | 0.151 | 449 | 5,659 | 31 | 57 | 422 | 942 | 0 | 17 |
| 2012 | 0.144 | 430 | 5,659 | 33 | 59 | 451 | 985 | 0 | (11) |
| 2013 | 0.138 | 412 | 5,659 | 34 | 62 | 482 | 1,027 | 0 | (37) |
| 2014 | 0.132 | 394 | 5,659 | 36 | 65 | 516 | 1,037 | 0 | (27) |
| 2015 | 0.126 | 375 | 5,659 | 38 | 67 | 552 | 1,062 | 0 | (29) |
| 2016 | 0.120 | 357 | 5,659 | 39 | 70 | 591 | 1,097 | 0 | (39) |
| 2017 | 0.114 | 339 | 5,659 | 41 | 74 | 632 | 1,152 | 0 | (67) |
| 2018 | 0.108 | 320 | 5,659 | 43 | 77 | 676 | 1,234 | 0 | (117) |
| 2019 | 0.101 | 302 | 5,659 | 45 | 80 | 723 | 1,234 | 0 | (83) |
| 2020 | 0.095 | 283 | 5,659 | 47 | 84 | 774 | 1,234 | 0 | (46) |
| 2021 | 0.090 | 267 | 5,659 | 49 | 88 | 828 | 1,234 | 0 | (2) |
| 2022 | 0.086 | 255 | 5,659 | 51 | 92 | 885 | 1,268 | 0 | 16 |
| 2023 | 0.082 | 245 | 5,659 | 53 | 96 | 947 | 1,300 | 0 | 42 |
| 2024 | 0.079 | 235 | 5,659 | 56 | 100 | 1,013 | 1,330 | 0 | 74 |
| 2025 | 0.076 | 225 | 5,659 | 58 | 105 | 1,084 | 1,364 | 0 | 108 |
| 2026 | 0.072 | 215 | 5,659 | 61 | 109 | 1,160 | 1,399 | 0 | 147 |
| 2027 | 0.069 | 204 | 5,659 | 64 | 114 | 1,241 | 1,433 | 0 | 191 |
| 2028 | 0.066 | 196 | 5,659 | 66 | 120 | 1,327 | 1,465 | 0 | 244 |
| 2029 | 0.062 | 185 | 5,659 | 69 | 125 | 1,420 | 1,491 | 0 | 309 |
| 2030 | 0.059 | 176 | 5,659 | 73 | 131 | 1,519 | 1,519 | 0 | 379 |
| MORTAL | | 11,408 | 169,769 | 1,236 | 2,222 | 20,206 | 31,925 | 0 | 3,146 |
| NPV | | 2,132 | | 133 | 240 | 1,856 | 3,617 | 0 | 745 |

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

AVOIDED T & D AND PROGRAM FUEL SAVINGS
 PROGRAM: RADSE - MINOR

* INSERVICE COSTS OF AVOIDED TRANS. (000) = \$0.0
 * INSERVICE COSTS OF AVOIDED DIST. (000) = \$0.0

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---------|--|---|--|--|---|--|---------------------------------------|
| YEAR | AVOIDED TRANSMISSION CAPACITY COST \$(000) | AVOIDED TRANSMISSION O&M COST \$(000) | TOTAL AVOIDED TRANSMISSION COST \$(000) | AVOIDED DISTRIBUTION CAPACITY COST \$(000) | AVOIDED DISTRIBUTION O&M COST \$(000) | TOTAL AVOIDED DISTRIBUTION COST \$(000) | PROGRAM FUEL SAVINGS \$(000) |
| 1992 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 1993 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| 1994 | 0 | 0 | 0 | 0 | 0 | 0 | 41 |
| 1995 | 0 | 0 | 0 | 0 | 0 | 0 | 70 |
| 1996 | 0 | 0 | 0 | 0 | 0 | 0 | 93 |
| 1997 | 0 | 0 | 0 | 0 | 0 | 0 | 121 |
| 1998 | 0 | 0 | 0 | 0 | 0 | 0 | 179 |
| 1999 | 0 | 0 | 0 | 0 | 0 | 0 | 242 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 284 |
| 2001 | 0 | 0 | 0 | 0 | 0 | 0 | 346 |
| 2002 | 0 | 0 | 0 | 0 | 0 | 0 | 439 |
| 2003 | 0 | 0 | 0 | 0 | 0 | 0 | 449 |
| 2004 | 0 | 0 | 0 | 0 | 0 | 0 | 530 |
| 2005 | 0 | 0 | 0 | 0 | 0 | 0 | 665 |
| 2006 | 0 | 0 | 0 | 0 | 0 | 0 | 757 |
| 2007 | 0 | 0 | 0 | 0 | 0 | 0 | 755 |
| 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 800 |
| 2009 | 0 | 0 | 0 | 0 | 0 | 0 | 836 |
| 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 925 |
| 2011 | 0 | 0 | 0 | 0 | 0 | 0 | 918 |
| 2012 | 0 | 0 | 0 | 0 | 0 | 0 | 941 |
| 2013 | 0 | 0 | 0 | 0 | 0 | 0 | 986 |
| 2014 | 0 | 0 | 0 | 0 | 0 | 0 | 996 |
| 2015 | 0 | 0 | 0 | 0 | 0 | 0 | 1,050 |
| 2016 | 0 | 0 | 0 | 0 | 0 | 0 | 1,095 |
| 2017 | 0 | 0 | 0 | 0 | 0 | 0 | 1,150 |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 1,221 |
| 2019 | 0 | 0 | 0 | 0 | 0 | 0 | 1,218 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 0 | 1,233 |
| 2021 | 0 | 0 | 0 | 0 | 0 | 0 | 1,249 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 0 | 1,288 |
| 2023 | 0 | 0 | 0 | 0 | 0 | 0 | 1,328 |
| 2024 | 0 | 0 | 0 | 0 | 0 | 0 | 1,369 |
| 2025 | 0 | 0 | 0 | 0 | 0 | 0 | 1,412 |
| 2026 | 0 | 0 | 0 | 0 | 0 | 0 | 1,457 |
| 2027 | 0 | 0 | 0 | 0 | 0 | 0 | 1,502 |
| 2028 | 0 | 0 | 0 | 0 | 0 | 0 | 1,549 |
| 2029 | 0 | 0 | 0 | 0 | 0 | 0 | 1,598 |
| 2030 | 0 | 0 | 0 | 0 | 0 | 0 | 1,648 |
| NOMINAL | 0 | 0 | 0 | 0 | 0 | 0 | 32,758 |
| NPV: | 0 | 0 | 0 | 0 | 0 | 0 | 4,042 |

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

00011

TOTAL RESOURCE COST TESTS
PROGRAM: RADSE - MINOR

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|---------------|---|--|--|---------------------------|---------------------------|--|---|---------------------------------------|------------------------------|------------------------------|----------------------------|--|
| YEAR | INCREASED SUPPLY COSTS \$(000) | UTILITY PROGRAM COSTS \$(000) | PARTICIPANT PROGRAM COSTS \$(000) | OTHER COSTS \$(000) | TOTAL COSTS \$(000) | AVOIDED GEN UNIT BENEFITS \$(000) | AVOIDED T & D BENEFITS \$(000) | PROGRAM FUEL SAVINGS \$(000) | OTHER BENEFITS \$(000) | TOTAL BENEFITS \$(000) | NET BENEFITS \$(000) | CUMULATIVE DISCOUNTED NET BENEFITS \$(000) |
| 1992 | 0 | 63 | 75 | 0 | 138 | 0 | 0 | 4 | 0 | 4 | (134) | (134) |
| 1993 | 0 | 131 | 157 | 0 | 288 | 0 | 0 | 17 | 0 | 17 | (271) | (380) |
| 1994 | 0 | 137 | 165 | 0 | 302 | 0 | 0 | 41 | 0 | 41 | (261) | (596) |
| 1995 | 0 | 144 | 173 | 0 | 317 | 0 | 0 | 70 | 0 | 70 | (247) | (781) |
| 1996 | 0 | 151 | 181 | 0 | 332 | 0 | 0 | 93 | 0 | 93 | (239) | (944) |
| 1997 | 0 | 158 | 190 | 0 | 348 | 0 | 0 | 121 | 0 | 121 | (227) | (1,085) |
| 1998 | 0 | 166 | 199 | 0 | 364 | 0 | 0 | 179 | 0 | 179 | (185) | (1,189) |
| 1999 | 0 | 174 | 208 | 0 | 382 | 0 | 0 | 242 | 0 | 242 | (140) | (1,260) |
| 2000 | 0 | 182 | 218 | 0 | 400 | 0 | 0 | 284 | 0 | 284 | (116) | (1,314) |
| 2001 | 0 | 0 | 0 | 0 | 0 | 510 | 0 | 346 | 0 | 856 | 856 | (953) |
| 2002 | 0 | 0 | 0 | 0 | 0 | 454 | 0 | 439 | 0 | 893 | 893 | (610) |
| 2003 | 0 | 0 | 0 | 0 | 0 | 377 | 0 | 449 | 0 | 826 | 826 | (323) |
| 2004 | 0 | 0 | 0 | 0 | 0 | 330 | 0 | 530 | 0 | 860 | 860 | (50) |
| 2005 | 0 | 0 | 0 | 0 | 0 | 223 | 0 | 665 | 0 | 888 | 888 | 205 |
| 2006 | 0 | 0 | 0 | 0 | 0 | 122 | 0 | 757 | 0 | 879 | 879 | 435 |
| 2007 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 755 | 0 | 780 | 780 | 620 |
| 2008 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 800 | 0 | 818 | 818 | 796 |
| 2009 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 836 | 0 | 853 | 853 | 964 |
| 2010 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 925 | 0 | 928 | 928 | 1,129 |
| 2011 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 918 | 0 | 935 | 935 | 1,280 |
| 2012 | 0 | 0 | 0 | 0 | 0 | (11) | 0 | 941 | 0 | 929 | 929 | 1,417 |
| 2013 | 0 | 0 | 0 | 0 | 0 | (37) | 0 | 786 | 0 | 949 | 949 | 1,544 |
| 2014 | 0 | 0 | 0 | 0 | 0 | (27) | 0 | 996 | 0 | 969 | 969 | 1,661 |
| 2015 | 0 | 0 | 0 | 0 | 0 | (29) | 0 | 1,050 | 0 | 1,020 | 1,020 | 1,774 |
| 2016 | 0 | 0 | 0 | 0 | 0 | (39) | 0 | 1,095 | 0 | 1,055 | 1,055 | 1,879 |
| 2017 | 0 | 0 | 0 | 0 | 0 | (67) | 0 | 1,150 | 0 | 1,083 | 1,083 | 1,978 |
| 2018 | 0 | 0 | 0 | 0 | 0 | (117) | 0 | 1,221 | 0 | 1,103 | 1,103 | 2,069 |
| 2019 | 0 | 0 | 0 | 0 | 0 | (83) | 0 | 1,218 | 0 | 1,134 | 1,134 | 2,155 |
| 2020 | 0 | 0 | 0 | 0 | 0 | (46) | 0 | 1,233 | 0 | 1,187 | 1,187 | 2,236 |
| 2021 | 0 | 0 | 0 | 0 | 0 | (2) | 0 | 1,249 | 0 | 1,247 | 1,247 | 2,313 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 1,288 | 0 | 1,304 | 1,304 | 2,387 |
| 2023 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 1,328 | 0 | 1,370 | 1,370 | 2,457 |
| 2024 | 0 | 0 | 0 | 0 | 0 | 74 | 0 | 1,369 | 0 | 1,444 | 1,444 | 2,524 |
| 2025 | 0 | 0 | 0 | 0 | 0 | 108 | 0 | 1,412 | 0 | 1,520 | 1,520 | 2,588 |
| 2026 | 0 | 0 | 0 | 0 | 0 | 147 | 0 | 1,457 | 0 | 1,604 | 1,604 | 2,650 |
| 2027 | 0 | 0 | 0 | 0 | 0 | 191 | 0 | 1,502 | 0 | 1,693 | 1,693 | 2,709 |
| 2028 | 0 | 0 | 0 | 0 | 0 | 244 | 0 | 1,549 | 0 | 1,793 | 1,793 | 2,766 |
| 2029 | 0 | 0 | 0 | 0 | 0 | 309 | 0 | 1,598 | 0 | 1,907 | 1,907 | 2,821 |
| 2030 | 0 | 0 | 0 | 0 | 0 | 379 | 0 | 1,648 | 0 | 2,026 | 2,026 | 2,874 |
| NORMAL | 0 | 1,305 | 1,565 | 0 | 2,870 | 3,146 | 0 | 32,758 | 0 | 35,905 | 33,035 | |
| NPV: | 0 | 870 | 1,044 | 0 | 1,914 | 745 | 0 | 4,042 | 0 | 4,787 | 2,874 | |
| Discount Rate | | 10.06% | | | | | | | | | | |
| | | | | | | | | | | | | Benefit/Cost Ratio - [col (11)/col (6)]: 2.5 |

00012

PARTICIPANT COSTS AND BENEFITS
PROGRAM: RADSE - MINOR

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---------|--------------------------------------|---------------------|-------------------------|------------------------|------------------------|----------------------------------|------------------------------|---------------------|---------------------|----------------------|--|
| YEAR | SAVINGS IN PARTICIPANTS BILL \$(000) | TAX CREDITS \$(000) | UTILITY REBATES \$(000) | OTHER BENEFITS \$(000) | TOTAL BENEFITS \$(000) | CUSTOMER EQUIPMENT COSTS \$(000) | CUSTOMER O & M COSTS \$(000) | OTHER COSTS \$(000) | TOTAL COSTS \$(000) | NET BENEFITS \$(000) | CUMULATIVE DISCOUNTED NET BENEFITS \$(000) |
| 1992 | 10 | 0 | 50 | 0 | 60 | 75 | 0 | 0 | 75 | (15) | (15) |
| 1993 | 42 | 0 | 100 | 0 | 142 | 157 | 0 | 0 | 157 | (15) | (28) |
| 1994 | 88 | 0 | 100 | 0 | 188 | 165 | 0 | 0 | 165 | 23 | (9) |
| 1995 | 138 | 0 | 100 | 0 | 238 | 173 | 0 | 0 | 173 | 65 | 40 |
| 1996 | 190 | 0 | 100 | 0 | 290 | 181 | 0 | 0 | 181 | 109 | 114 |
| 1997 | 247 | 0 | 100 | 0 | 347 | 190 | 0 | 0 | 190 | 157 | 212 |
| 1998 | 310 | 0 | 100 | 0 | 410 | 199 | 0 | 0 | 199 | 212 | 331 |
| 1999 | 380 | 0 | 100 | 0 | 480 | 208 | 0 | 0 | 208 | 271 | 469 |
| 2000 | 451 | 0 | 100 | 0 | 551 | 218 | 0 | 0 | 218 | 333 | 624 |
| 2001 | 502 | 0 | 0 | 0 | 502 | 0 | 0 | 0 | 0 | 502 | 836 |
| 2002 | 536 | 0 | 0 | 0 | 536 | 0 | 0 | 0 | 0 | 536 | 1,041 |
| 2003 | 559 | 0 | 0 | 0 | 559 | 0 | 0 | 0 | 0 | 559 | 1,236 |
| 2004 | 590 | 0 | 0 | 0 | 590 | 0 | 0 | 0 | 0 | 590 | 1,423 |
| 2005 | 629 | 0 | 0 | 0 | 629 | 0 | 0 | 0 | 0 | 629 | 1,604 |
| 2006 | 665 | 0 | 0 | 0 | 665 | 0 | 0 | 0 | 0 | 665 | 1,777 |
| 2007 | 696 | 0 | 0 | 0 | 696 | 0 | 0 | 0 | 0 | 696 | 1,943 |
| 2008 | 735 | 0 | 0 | 0 | 735 | 0 | 0 | 0 | 0 | 735 | 2,101 |
| 2009 | 762 | 0 | 0 | 0 | 762 | 0 | 0 | 0 | 0 | 762 | 2,250 |
| 2010 | 806 | 0 | 0 | 0 | 806 | 0 | 0 | 0 | 0 | 806 | 2,394 |
| 2011 | 831 | 0 | 0 | 0 | 831 | 0 | 0 | 0 | 0 | 831 | 2,529 |
| 2012 | 870 | 0 | 0 | 0 | 870 | 0 | 0 | 0 | 0 | 870 | 2,657 |
| 2013 | 918 | 0 | 0 | 0 | 918 | 0 | 0 | 0 | 0 | 918 | 2,779 |
| 2014 | 948 | 0 | 0 | 0 | 948 | 0 | 0 | 0 | 0 | 948 | 2,894 |
| 2015 | 993 | 0 | 0 | 0 | 993 | 0 | 0 | 0 | 0 | 993 | 3,004 |
| 2016 | 1,039 | 0 | 0 | 0 | 1,039 | 0 | 0 | 0 | 0 | 1,039 | 3,108 |
| 2017 | 1,091 | 0 | 0 | 0 | 1,091 | 0 | 0 | 0 | 0 | 1,091 | 3,207 |
| 2018 | 1,160 | 0 | 0 | 0 | 1,160 | 0 | 0 | 0 | 0 | 1,160 | 3,303 |
| 2019 | 1,188 | 0 | 0 | 0 | 1,188 | 0 | 0 | 0 | 0 | 1,188 | 3,392 |
| 2020 | 1,230 | 0 | 0 | 0 | 1,230 | 0 | 0 | 0 | 0 | 1,230 | 3,476 |
| 2021 | 1,273 | 0 | 0 | 0 | 1,273 | 0 | 0 | 0 | 0 | 1,273 | 3,555 |
| 2022 | 1,318 | 0 | 0 | 0 | 1,318 | 0 | 0 | 0 | 0 | 1,318 | 3,630 |
| 2023 | 1,365 | 0 | 0 | 0 | 1,365 | 0 | 0 | 0 | 0 | 1,365 | 3,700 |
| 2024 | 1,413 | 0 | 0 | 0 | 1,413 | 0 | 0 | 0 | 0 | 1,413 | 3,765 |
| 2025 | 1,462 | 0 | 0 | 0 | 1,462 | 0 | 0 | 0 | 0 | 1,462 | 3,827 |
| 2026 | 1,514 | 0 | 0 | 0 | 1,514 | 0 | 0 | 0 | 0 | 1,514 | 3,885 |
| 2027 | 1,567 | 0 | 0 | 0 | 1,567 | 0 | 0 | 0 | 0 | 1,567 | 3,940 |
| 2028 | 1,622 | 0 | 0 | 0 | 1,622 | 0 | 0 | 0 | 0 | 1,622 | 3,992 |
| 2029 | 1,680 | 0 | 0 | 0 | 1,680 | 0 | 0 | 0 | 0 | 1,680 | 4,040 |
| 2030 | 1,738 | 0 | 0 | 0 | 1,738 | 0 | 0 | 0 | 0 | 1,738 | 4,086 |
| NOMINAL | 33,558 | 0 | 850 | 0 | 34,408 | 1,565 | 0 | 0 | 1,565 | 32,842 | |
| NPV: | 4,547 | 0 | 582 | 0 | 5,129 | 1,044 | 0 | 0 | 1,044 | 4,086 | |

In service year of gen unit: 2001
Discount rate: 10.06%

00013

RATE IMPACT TEST
PROGRAM:RADSE - MINOR

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|---------|--------------------------------|-------------------------------|--------------------|------------------------|---------------------|---------------------|--|--------------------------------|-----------------------|------------------------|------------------------|---------------------------------------|---|
| YEAR | INCREASED SUPPLY COSTS \$(000) | UTILITY PROGRAM COSTS \$(000) | INCENTIVES \$(000) | REVENUE LOSSES \$(000) | OTHER COSTS \$(000) | TOTAL COSTS \$(000) | AVOIDED GEN UNIT & FUEL BENEFITS \$(000) | AVOIDED T & D BENEFITS \$(000) | REVENUE GAINS \$(000) | OTHER BENEFITS \$(000) | TOTAL BENEFITS \$(000) | NET BENEFITS TO ALL CUSTOMERS \$(000) | CUMULATIVE DISCOUNTED NET BENEFIT \$(000) |
| 1992 | 0 | 63 | 50 | 6 | 0 | 118 | 4 | 0 | 0 | 0 | 4 | (115) | (115) |
| 1993 | 0 | 131 | 100 | 22 | 0 | 253 | 17 | 0 | 0 | 0 | 17 | (237) | (329) |
| 1994 | 0 | 137 | 100 | 45 | 0 | 282 | 41 | 0 | 0 | 0 | 41 | (241) | (529) |
| 1995 | 0 | 144 | 100 | 67 | 0 | 311 | 70 | 0 | 0 | 0 | 70 | (242) | (710) |
| 1996 | 0 | 151 | 100 | 90 | 0 | 341 | 93 | 0 | 0 | 0 | 93 | (248) | (879) |
| 1997 | 0 | 158 | 100 | 112 | 0 | 370 | 121 | 0 | 0 | 0 | 121 | (250) | (1,034) |
| 1998 | 0 | 166 | 100 | 135 | 0 | 401 | 179 | 0 | 0 | 0 | 179 | (221) | (1,158) |
| 1999 | 0 | 174 | 100 | 157 | 0 | 431 | 242 | 0 | 0 | 0 | 242 | (189) | (1,255) |
| 2000 | 0 | 182 | 100 | 180 | 0 | 462 | 284 | 0 | 0 | 0 | 284 | (177) | (1,338) |
| 2001 | 0 | 0 | 0 | 59 | 0 | 59 | 856 | 0 | 0 | 0 | 856 | 797 | (1,001) |
| 2002 | 0 | 0 | 0 | 59 | 0 | 59 | 893 | 0 | 0 | 0 | 893 | 834 | (681) |
| 2003 | 0 | 0 | 0 | 59 | 0 | 59 | 826 | 0 | 0 | 0 | 826 | 767 | (414) |
| 2004 | 0 | 0 | 0 | 59 | 0 | 59 | 860 | 0 | 0 | 0 | 860 | 801 | (160) |
| 2005 | 0 | 0 | 0 | 59 | 0 | 59 | 888 | 0 | 0 | 0 | 888 | 829 | 78 |
| 2006 | 0 | 0 | 0 | 59 | 0 | 59 | 879 | 0 | 0 | 0 | 879 | 821 | 292 |
| 2007 | 0 | 0 | 0 | 59 | 0 | 59 | 780 | 0 | 0 | 0 | 780 | 721 | 464 |
| 2008 | 0 | 0 | 0 | 59 | 0 | 59 | 818 | 0 | 0 | 0 | 818 | 760 | 627 |
| 2009 | 0 | 0 | 0 | 59 | 0 | 59 | 853 | 0 | 0 | 0 | 853 | 794 | 783 |
| 2010 | 0 | 0 | 0 | 59 | 0 | 59 | 928 | 0 | 0 | 0 | 928 | 869 | 938 |
| 2011 | 0 | 0 | 0 | 59 | 0 | 59 | 935 | 0 | 0 | 0 | 935 | 876 | 1,080 |
| 2012 | 0 | 0 | 0 | 59 | 0 | 59 | 929 | 0 | 0 | 0 | 929 | 870 | 1,208 |
| 2013 | 0 | 0 | 0 | 59 | 0 | 59 | 949 | 0 | 0 | 0 | 949 | 890 | 1,326 |
| 2014 | 0 | 0 | 0 | 59 | 0 | 59 | 969 | 0 | 0 | 0 | 969 | 910 | 1,437 |
| 2015 | 0 | 0 | 0 | 59 | 0 | 59 | 1,020 | 0 | 0 | 0 | 1,020 | 961 | 1,543 |
| 2016 | 0 | 0 | 0 | 59 | 0 | 59 | 1,055 | 0 | 0 | 0 | 1,055 | 996 | 1,643 |
| 2017 | 0 | 0 | 0 | 59 | 0 | 59 | 1,083 | 0 | 0 | 0 | 1,083 | 1,025 | 1,736 |
| 2018 | 0 | 0 | 0 | 59 | 0 | 59 | 1,103 | 0 | 0 | 0 | 1,103 | 1,044 | 1,822 |
| 2019 | 0 | 0 | 0 | 59 | 0 | 59 | 1,134 | 0 | 0 | 0 | 1,134 | 1,075 | 1,903 |
| 2020 | 0 | 0 | 0 | 59 | 0 | 59 | 1,187 | 0 | 0 | 0 | 1,187 | 1,128 | 1,980 |
| 2021 | 0 | 0 | 0 | 59 | 0 | 59 | 1,247 | 0 | 0 | 0 | 1,247 | 1,188 | 2,054 |
| 2022 | 0 | 0 | 0 | 59 | 0 | 59 | 1,304 | 0 | 0 | 0 | 1,304 | 1,245 | 2,124 |
| 2023 | 0 | 0 | 0 | 59 | 0 | 59 | 1,370 | 0 | 0 | 0 | 1,370 | 1,311 | 2,191 |
| 2024 | 0 | 0 | 0 | 59 | 0 | 59 | 1,444 | 0 | 0 | 0 | 1,444 | 1,385 | 2,256 |
| 2025 | 0 | 0 | 0 | 59 | 0 | 59 | 1,520 | 0 | 0 | 0 | 1,520 | 1,462 | 2,318 |
| 2026 | 0 | 0 | 0 | 59 | 0 | 59 | 1,604 | 0 | 0 | 0 | 1,604 | 1,545 | 2,377 |
| 2027 | 0 | 0 | 0 | 59 | 0 | 59 | 1,693 | 0 | 0 | 0 | 1,693 | 1,634 | 2,434 |
| 2028 | 0 | 0 | 0 | 59 | 0 | 59 | 1,793 | 0 | 0 | 0 | 1,793 | 1,734 | 2,489 |
| 2029 | 0 | 0 | 0 | 59 | 0 | 59 | 1,907 | 0 | 0 | 0 | 1,907 | 1,848 | 2,542 |
| 2030 | 0 | 0 | 0 | 59 | 0 | 59 | 2,026 | 0 | 0 | 0 | 2,026 | 1,968 | 2,594 |
| NOMINAL | 0 | 1,305 | 850 | 2,583 | 0 | 4,737 | 35,905 | 0 | 0 | 0 | 35,905 | 31,168 | |
| NPV: | 0 | 870 | 582 | 741 | 0 | 2,194 | 4,787 | 0 | 0 | 0 | 4,787 | 2,594 | |

Discount rate:

10.06%

Benefit/Cost Ratio - [col (12)/col (7)]:

2.2

00014

I. PROGRAM DEMAND SAVINGS AND LINE LOSSES

| | |
|--|-------------------|
| (1) CUSTOMER KW REDUCTION AT THE METER | 1.41 KW /CUST |
| (2) GENERATOR KW REDUCTION PER CUSTOMER | 0.98 KW GEN/CUST |
| (3) KW LINE LOSS PERCENTAGE | 8.0 % |
| (4) GENERATION KWH REDUCTION PER CUSTOMER | 1,627 KWH/CUST/YR |
| (5) KWH LINE LOSS PERCENTAGE | 5.0 % |
| (6) GROUP LINE LOSS MULTIPLIER | 1.0000 |
| (7) CUSTOMER KWH PROGRAM INCREASE AT METER | 0.0 KWH/CUST/YR |
| (8)* CUSTOMER KWH REDUCTION AT METER | 1,546 KWH/CUST/YR |

II. ECONOMIC LIFE AND K FACTORS

| | |
|---|----------|
| (1) STUDY PERIOD FOR CONSERVATION PROGRAM | 39 YEARS |
| (2) GENERATOR ECONOMIC LIFE | 30 YEARS |
| (3) T & D ECONOMIC LIFE | 30 YEARS |
| (4) K FACTOR FOR GENERATION | 1.6980 |
| (5) K FACTOR FOR T & D | 1.6980 |
| (6)* SWITCH REV REQ(0) OR VAL-OF-DEF (1) | 0 |

III. UTILITY AND CUSTOMER COSTS

| | |
|---|-----------------|
| (1) UTILITY NONRECURRING COST PER CUSTOMER ... | 200.00 \$/CUST |
| (2) UTILITY RECURRING COST PER CUSTOMER | 0.00 \$/CUST/YR |
| (3) UTILITY COST ESCALATION RATE | 4.8 % |
| (4) CUSTOMER EQUIPMENT COST | 275.00 \$/CUST |
| (5) CUSTOMER EQUIPMENT ESCALATION RATE | 4.8 % |
| (6) CUSTOMER O & M COST | 0.00 \$/CUST/YR |
| (7) CUSTOMER O & M ESCALATION RATE | 4.8 % |
| (8)* CUSTOMER TAX CREDIT PER INSTALLATION | 0.00 \$/CUST |
| (9)* CUSTOMER TAX CREDIT ESCALATION RATE | 0.0 % |
| (10)* INCREASED SUPPLY COSTS | 0.00 \$/CUST/YR |
| (11)* SUPPLY COSTS ESCALATION RATE | 0.0 % |
| (12)* UTILITY DISCOUNT RATE | 10.06% |
| (13)* UTILITY AFUDC RATE | 7.93% |
| (14)* UTILITY NON RECURRING REBATE/INCENTIVE .. | 175.00 \$/CUST |
| (15)* UTILITY RECURRING REBATE/INCENTIVE | 0.00 \$/CUST/YR |
| (16)* UTILITY REBATE/INCENTIVE ESCAL RATE | 0.0 % |

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

IV. AVOIDED GENERATOR, TRANS. AND DIST. COSTS

| | |
|--|-----------------|
| (1) BASE YEAR | 1992 |
| (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT | 2001 |
| (3) IN-SERVICE YEAR FOR AVOIDED T & D | 2001 |
| (4) BASE YEAR AVOIDED GENERATING UNIT COST | 595.70 \$/KW |
| (5) BASE YEAR AVOIDED TRANSMISSION COST | 0.00 \$/KW |
| (6) BASE YEAR DISTRIBUTION COST | 0.00 \$/KW |
| (7) GEN, TRAN, & DIST COST ESCALATION RATE ... | 4.7 % |
| (8) GENERATOR FIXED O & M COST | 4.22 \$/KW/YR |
| (9) GENERATOR FIXED O&M ESCALATION RATE | 4.5 % |
| (10) TRANSMISSION FIXED O & M COST | 0.00 \$/KW/YR |
| (11) DISTRIBUTION FIXED O & M COST | 0.00 \$/KW/YR |
| (12) T&D FIXED O&M ESCALATION RATE | 0.0 % |
| (13) AVOIDED GEN UNIT VARIABLE O & M COSTS | 0.433 CENTS/KWH |
| (14) GENERATOR VARIABLE O&M COST ESCALATION RATE | 4.5 % |
| (15) GENERATOR CAPACITY FACTOR | 20 % |
| (16) AVOIDED GENERATING UNIT FUEL COST | 2.067 CENTS/KWH |
| (17) AVOIDED GEN UNIT FUEL ESCALATION RATE | 6.98 % |
| (18)* AVOIDED PURCHASE CAPACITY COST PER KW | 0.00 \$/KW/YR |
| (19)* CAPACITY COST ESCALATION RATE | 0.0 % |

V. NON-FUEL ENERGY AND DEMAND CHARGES

| | |
|---|-----------------|
| (1) NON-FUEL COST IN CUSTOMER BILL | 4.334 CENTS/KWH |
| (2) NON-FUEL ESCALATION RATE | 3.7 % |
| (3) CUSTOMER DEMAND CHARGE PER KW | 0.00 \$/KW/MO |
| (4) DEMAND CHARGE ESCALATION RATE | 0.0 % |
| (5)* DIVERSITY and ANNUAL DEMAND ADJUSTMENT FACTOR FOR CUSTOMER BILL | 1.0 |

Exhibit "E"

00015

CALCULATION OF K FACTOR
2001 AVOIDED COMBINE CYCLE

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13)* |
|---------------|----------------------------|--------------|-------------------------|-----------------------|----------------------|---------------------------------|-----------------------------------|------------------------|-----------------------------|-------------------------------------|-------------------------------------|----------------------------|
| CALENDAR YEAR | MID-YEAR RATE-BASE (\$000) | DEBT (\$000) | PREFERRED STOCK (\$000) | COMMON EQUITY (\$000) | INCOME TAXES (\$000) | OTHER TAXES & INSURANCE (\$000) | BOOK DEPRECIATION EXPENSE (\$000) | DEFERRED TAXES (\$000) | TOTAL FIXED CHARGES (\$000) | PRESENT WORTH FIXED CHARGES (\$000) | CUMULATIVE PW FIXED CHARGES (\$000) | TOTAL FIXED CHARGES (P.U.) |
| 1 | 2001 | 223,043 | 8,872 | 343 | 16,561 | 10,199 | 5,675 | 7,567 | 356 | 49,217 | 49,217 | 0.2168 |
| 2 | 2002 | 213,638 | 8,497 | 329 | 15,863 | 9,769 | 5,675 | 7,567 | 3,320 | 47,700 | 43,340 | 0.2101 |
| 3 | 2003 | 202,982 | 8,074 | 313 | 15,071 | 9,282 | 5,675 | 7,567 | 2,859 | 45,981 | 37,960 | 0.2026 |
| 4 | 2004 | 192,770 | 7,667 | 297 | 14,313 | 8,815 | 5,675 | 7,567 | 2,432 | 44,334 | 33,255 | 0.1953 |
| 5 | 2005 | 182,972 | 7,278 | 282 | 13,586 | 8,367 | 5,675 | 7,567 | 2,030 | 42,754 | 29,138 | 0.1883 |
| 6 | 2006 | 173,559 | 6,903 | 267 | 12,887 | 7,936 | 5,675 | 7,567 | 1,663 | 41,235 | 25,535 | 0.1817 |
| 7 | 2007 | 164,495 | 6,543 | 253 | 12,214 | 7,522 | 5,675 | 7,567 | 1,330 | 39,774 | 22,378 | 0.1752 |
| 8 | 2008 | 155,757 | 6,195 | 240 | 11,565 | 7,122 | 5,675 | 7,567 | 1,014 | 38,364 | 19,612 | 0.1690 |
| 9 | 2009 | 147,202 | 5,855 | 227 | 10,930 | 6,731 | 5,675 | 7,567 | 962 | 36,984 | 17,179 | 0.1629 |
| 10 | 2010 | 138,673 | 5,516 | 214 | 10,296 | 6,341 | 5,675 | 7,567 | 962 | 35,609 | 15,028 | 0.1569 |
| 11 | 2011 | 130,144 | 5,176 | 200 | 9,663 | 5,951 | 5,675 | 7,567 | 962 | 34,233 | 13,127 | 0.1508 |
| 12 | 2012 | 121,614 | 4,837 | 187 | 9,030 | 5,561 | 5,675 | 7,567 | 962 | 32,857 | 11,448 | 0.1447 |
| 13 | 2013 | 113,085 | 4,498 | 174 | 8,397 | 5,171 | 5,675 | 7,567 | 962 | 31,482 | 9,966 | 0.1387 |
| 14 | 2014 | 104,556 | 4,159 | 161 | 7,763 | 4,781 | 5,675 | 7,567 | 962 | 30,106 | 8,659 | 0.1326 |
| 15 | 2015 | 96,027 | 3,819 | 148 | 7,130 | 4,391 | 5,675 | 7,567 | 962 | 28,730 | 7,508 | 0.1266 |
| 16 | 2016 | 87,498 | 3,480 | 135 | 6,497 | 4,001 | 5,675 | 7,567 | 962 | 27,355 | 6,495 | 0.1205 |
| 17 | 2017 | 78,968 | 3,141 | 122 | 5,863 | 3,611 | 5,675 | 7,567 | 962 | 25,979 | 5,605 | 0.1144 |
| 18 | 2018 | 70,439 | 2,802 | 108 | 5,230 | 3,221 | 5,675 | 7,567 | 962 | 24,603 | 4,823 | 0.1084 |
| 19 | 2019 | 61,910 | 2,462 | 95 | 4,597 | 2,831 | 5,675 | 7,567 | 962 | 23,227 | 4,137 | 0.1023 |
| 20 | 2020 | 53,381 | 2,123 | 82 | 3,964 | 2,441 | 5,675 | 7,567 | 962 | 21,852 | 3,536 | 0.0963 |
| 21 | 2021 | 45,795 | 1,822 | 71 | 3,400 | 2,094 | 5,675 | 7,567 | (925) | 20,628 | 3,033 | 0.0909 |
| 22 | 2022 | 40,115 | 1,596 | 62 | 2,979 | 1,834 | 5,575 | 7,567 | (2,847) | 19,712 | 2,633 | 0.0868 |
| 23 | 2023 | 35,396 | 1,408 | 55 | 2,628 | 1,619 | 5,675 | 7,567 | (2,847) | 18,951 | 2,300 | 0.0835 |
| 24 | 2024 | 30,676 | 1,220 | 47 | 2,278 | 1,403 | 5,675 | 7,567 | (2,847) | 18,190 | 2,006 | 0.0801 |
| 25 | 2025 | 25,957 | 1,032 | 40 | 1,927 | 1,187 | 5,675 | 7,567 | (2,847) | 17,429 | 1,747 | 0.0768 |
| 26 | 2026 | 21,237 | 845 | 33 | 1,577 | 971 | 5,675 | 7,567 | (2,847) | 16,667 | 1,518 | 0.0734 |
| 27 | 2027 | 16,518 | 657 | 25 | 1,226 | 755 | 5,675 | 7,567 | (2,847) | 15,906 | 1,316 | 0.0701 |
| 28 | 2028 | 11,799 | 469 | 18 | 876 | 540 | 5,675 | 7,567 | (2,847) | 15,145 | 1,138 | 0.0667 |
| 29 | 2029 | 7,079 | 282 | 11 | 526 | 324 | 5,675 | 7,567 | (2,847) | 14,384 | 982 | 0.0634 |
| 30 | 2030 | 2,360 | 94 | 4 | 175 | 108 | 5,675 | 7,567 | (2,847) | 13,623 | 845 | 0.0600 |

K FACTOR = CPWFC/IN-SVC COST = 385464 / 227004 = 1.6980

| IN-SERVICE COSTS (\$000) | = | \$227,004 | CAPITALIZATION: | % | COST | COMPOSITE * |
|--------------------------|---|-----------|-------------------------|-------|--------|-------------|
| IN-SERVICE YEAR | = | 2001 | DEBT | 43.0 | 9.25% | 3.98% |
| BOOK LIFE, YEARS | = | 30 | PREFERRED STOCK | 2.0 | 7.70% | 0.15% |
| TAX LIFE, YRS | = | 20 | COMMON EQUITY | 55.0 | 13.50% | 7.43% |
| EFFECTIVE TAX RATE | = | 37.63% | TOTAL (i) * | 100.0 | | 11.56% |
| OTHER TAXES & INS | = | 2.50% | AFTER-TAX DISCOUNT RATE | | | 10.06% |

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

00015

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|------|---------------------|--------------------|----------------------|--|-------------------------------------|----------------------------------|----------------------------|
| YEAR | TAX DEPREC SCHEDULE | TAX DEPREC (\$000) | DEFERRED TAX (\$000) | END OF YEAR NET PLANT IN SERVICE (\$000) | BEGINNING OF YEAR RATE BASE (\$000) | ENDING OF YEAR RATE BASE (\$000) | MID-YEAR RATE-BASE (\$000) |
| 0 | | | | 227,004 | | | |
| 1 | 0.0375 | 8,513 | (2,847) | 219,437 | 227,004 | 219,081 | 223,043 |
| 2 | 0.0722 | 16,390 | (2,847) | 211,870 | 219,081 | 208,194 | 213,638 |
| 3 | 0.0668 | 15,164 | (2,847) | 204,304 | 208,194 | 197,769 | 202,982 |
| 4 | 0.0618 | 14,029 | (2,847) | 196,737 | 197,769 | 187,770 | 192,770 |
| 5 | 0.0571 | 12,962 | (2,847) | 189,170 | 187,770 | 178,173 | 182,972 |
| 6 | 0.0528 | 11,986 | (2,847) | 181,603 | 178,173 | 168,944 | 173,559 |
| 7 | 0.0489 | 11,100 | (2,847) | 174,036 | 168,944 | 160,047 | 164,495 |
| 8 | 0.0452 | 10,261 | (2,847) | 166,470 | 160,047 | 151,467 | 155,757 |
| 9 | 0.0446 | 10,124 | (2,847) | 158,903 | 151,467 | 142,938 | 147,202 |
| 10 | 0.0446 | 10,124 | (2,847) | 151,336 | 142,938 | 134,408 | 138,673 |
| 11 | 0.0446 | 10,124 | (2,847) | 143,769 | 134,408 | 125,879 | 130,144 |
| 12 | 0.0446 | 10,124 | (2,847) | 136,202 | 125,879 | 117,350 | 121,614 |
| 13 | 0.0446 | 10,124 | (2,847) | 128,636 | 117,350 | 108,821 | 113,085 |
| 14 | 0.0446 | 10,124 | (2,847) | 121,069 | 108,821 | 100,291 | 104,556 |
| 15 | 0.0446 | 10,124 | (2,847) | 113,502 | 100,291 | 91,762 | 96,027 |
| 16 | 0.0446 | 10,124 | (2,847) | 105,935 | 91,762 | 83,233 | 87,498 |
| 17 | 0.0446 | 10,124 | (2,847) | 98,368 | 83,233 | 74,704 | 78,968 |
| 18 | 0.0446 | 10,124 | (2,847) | 90,802 | 74,704 | 66,175 | 70,439 |
| 19 | 0.0446 | 10,124 | (2,847) | 83,235 | 66,175 | 57,645 | 61,910 |
| 20 | 0.0446 | 10,124 | (2,847) | 75,668 | 57,645 | 49,116 | 53,381 |
| 21 | 0.0225 | 5,108 | (2,847) | 68,101 | 49,116 | 42,475 | 45,795 |
| 22 | 0 | 0 | (2,847) | 60,534 | 42,475 | 37,755 | 40,115 |
| 23 | 0 | 0 | (2,847) | 52,968 | 37,755 | 33,036 | 35,396 |
| 24 | 0 | 0 | (2,847) | 45,401 | 33,036 | 28,316 | 30,676 |
| 25 | 0 | 0 | (2,847) | 37,834 | 28,316 | 23,597 | 25,957 |
| 26 | 0 | 0 | (2,847) | 30,267 | 23,597 | 18,878 | 21,237 |
| 27 | 0 | 0 | (2,847) | 22,700 | 18,878 | 14,158 | 16,518 |
| 28 | 0 | 0 | (2,847) | 15,134 | 14,158 | 9,439 | 11,799 |
| 29 | 0 | 0 | (2,847) | 7,567 | 9,439 | 4,719 | 7,079 |
| 30 | 0 | 0 | (2,847) | 0 | 4,719 | 0 | 2,360 |

1.0000

00017

CALCULATION OF AFUDC AND IN-SERVICE COST OF PLANT
PLANT: 2001 AVOIDED UNIT

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|------|----------------------------------|------------------------------------|------------------------------------|------------------------------|-------------------------------|--|---|-------------------------------------|--|---|
| YEAR | NO. YEARS BEFORE INSERVICE | PLANT ESCALATION RATE (%) | CUMULATIVE ESCALATION FACTOR | YEARLY EXPENDITURE (%) | ANNUAL SPENDING (\$/KW) | CUMULATIVE AVERAGE SPENDING (\$/KW) | CUMULATIVE SPENDING WITH AFUDC (\$/KW) | YEARLY TOTAL AFUDC (\$/KW) | INCREMENTAL YEAR-END BOOK VALUE (\$/KW) | CUMULATIVE YEAR-END BOOK VALUE (\$/KW) |
| 1992 | -9 | 0.0% | 1.0000 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1993 | -8 | 4.1% | 1.0410 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1994 | -7 | 4.4% | 1.0868 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1995 | -6 | 4.8% | 1.1390 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1996 | -5 | 4.8% | 1.1936 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1997 | -4 | 4.8% | 1.2509 | 0.0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1998 | -3 | 4.8% | 1.3110 | 30.0% | 234.29 | 117.14 | 117.14 | 9.29 | 243.57 | 243.57 |
| 1999 | -2 | 4.8% | 1.3739 | 55.7% | 455.87 | 462.22 | 471.51 | 37.39 | 493.26 | 736.83 |
| 2000 | -1 | 4.8% | 1.4399 | 14.3% | 122.65 | 751.48 | 798.16 | 63.29 | 185.95 | 922.78 |
| 2001 | 0 | | | 0.0% | 0.00 | | | 0.00 | 0.00 | |
| | | | | 1.00 | 812.81 | | | 109.97 | 922.78 | |

IN-SERVICE YEAR * 2001
PLANT COSTS (1992 \$) \$595.70
AFUDC RATE: 7.93%

00018

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|------|---|--|--|---|---|-------------------------------------|--|---|
| YEAR | CUMULATIVE TOTAL PARTICIPATING CUSTOMERS | ADJUSTED CUMULATIVE PARTICIPATING CUSTOMERS | UTILITY AVERAGE SYSTEM FUEL COSTS (C/KWH) | AVOIDED MARGINAL FUEL COST (C/KWH) | INCREASED MARGINAL FUEL COST (C/KWH) | REPLACEMENT FUEL COST (C/KWH) | PROGRAM KW EFFECTIVENESS FACTOR | PROGRAM KWH EFFECTIVENESS FACTOR |
| 1992 | 450 | 450 | 2.43 | 2.27 | 1.82 | 2.07 | 1.00 | 1.00 |
| 1993 | 1,350 | 1,350 | 2.54 | 2.68 | 2.03 | 2.42 | 1.00 | 1.00 |
| 1994 | 2,250 | 2,250 | 2.67 | 3.24 | 2.25 | 3.03 | 1.00 | 1.00 |
| 1995 | 3,150 | 3,150 | 2.84 | 3.67 | 2.53 | 3.70 | 1.00 | 1.00 |
| 1996 | 4,050 | 4,050 | 2.91 | 3.67 | 2.52 | 4.45 | 1.00 | 1.00 |
| 1997 | 4,950 | 4,950 | 3.03 | 3.82 | 2.63 | 5.25 | 1.00 | 1.00 |
| 1998 | 5,850 | 5,850 | 3.23 | 4.73 | 2.99 | 5.71 | 1.00 | 1.00 |
| 1999 | 6,750 | 6,750 | 3.45 | 5.47 | 3.34 | 6.29 | 1.00 | 1.00 |
| 2000 | 7,650 | 7,650 | 3.60 | 5.63 | 3.54 | 6.84 | 1.00 | 1.00 |
| 2001 | 7,650 | 7,650 | 3.84 | 6.45 | 3.90 | 7.20 | 1.00 | 1.00 |
| 2002 | 7,650 | 7,650 | 4.27 | 8.17 | 4.71 | 8.15 | 1.00 | 1.00 |
| 2003 | 7,650 | 7,650 | 4.50 | 8.37 | 5.00 | 9.45 | 1.00 | 1.00 |
| 2004 | 7,650 | 7,650 | 4.86 | 9.88 | 5.59 | 10.25 | 1.00 | 1.00 |
| 2005 | 7,650 | 7,650 | 5.38 | 12.38 | 6.89 | 12.14 | 1.00 | 1.00 |
| 2006 | 7,650 | 7,650 | 5.83 | 14.10 | 7.68 | 13.97 | 1.00 | 1.00 |
| 2007 | 7,650 | 7,650 | 6.17 | 14.07 | 8.04 | 15.78 | 1.00 | 1.00 |
| 2008 | 7,650 | 7,650 | 6.66 | 14.90 | 8.86 | 16.02 | 1.00 | 1.00 |
| 2009 | 7,650 | 7,650 | 6.90 | 15.58 | 9.19 | 16.22 | 1.00 | 1.00 |
| 2010 | 7,650 | 7,650 | 7.47 | 17.23 | 10.40 | 16.65 | 1.00 | 1.00 |
| 2011 | 7,650 | 7,650 | 7.66 | 17.10 | 10.32 | 16.64 | 1.00 | 1.00 |
| 2012 | 7,650 | 7,650 | 8.10 | 17.52 | 10.70 | 17.40 | 1.00 | 1.00 |
| 2013 | 7,650 | 7,650 | 8.70 | 18.36 | 11.53 | 18.15 | 1.00 | 1.00 |
| 2014 | 7,650 | 7,650 | 8.94 | 18.55 | 11.51 | 18.33 | 1.00 | 1.00 |
| 2015 | 7,650 | 7,650 | 9.48 | 19.55 | 12.28 | 18.76 | 1.00 | 1.00 |
| 2016 | 7,650 | 7,650 | 10.00 | 20.39 | 12.67 | 19.38 | 1.00 | 1.00 |
| 2017 | 7,650 | 7,650 | 10.65 | 21.42 | 13.42 | 20.35 | 1.00 | 1.00 |
| 2018 | 7,650 | 7,650 | 11.60 | 22.74 | 14.61 | 21.80 | 1.00 | 1.00 |
| 2019 | 7,650 | 7,650 | 11.74 | 22.68 | 14.44 | 21.80 | 1.00 | 1.00 |
| 2020 | 7,650 | 7,650 | 12.14 | 22.97 | 15.07 | 21.80 | 1.00 | 1.00 |
| 2021 | 7,650 | 7,650 | 12.54 | 23.26 | 15.73 | 21.80 | 1.00 | 1.00 |
| 2022 | 7,650 | 7,650 | 12.96 | 23.99 | 16.42 | 22.40 | 1.00 | 1.00 |
| 2023 | 7,650 | 7,650 | 13.39 | 24.74 | 17.13 | 22.97 | 1.00 | 1.00 |
| 2024 | 7,650 | 7,650 | 13.84 | 25.51 | 17.88 | 23.51 | 1.00 | 1.00 |
| 2025 | 7,650 | 7,650 | 14.30 | 26.31 | 18.66 | 24.11 | 1.00 | 1.00 |
| 2026 | 7,650 | 7,650 | 14.78 | 27.14 | 19.48 | 24.72 | 1.00 | 1.00 |
| 2027 | 7,650 | 7,650 | 15.27 | 27.98 | 20.33 | 25.33 | 1.00 | 1.00 |
| 2028 | 7,650 | 7,650 | 15.78 | 28.86 | 21.22 | 25.89 | 1.00 | 1.00 |
| 2029 | 7,650 | 7,650 | 16.31 | 29.76 | 22.15 | 26.34 | 1.00 | 1.00 |
| 2030 | 7,650 | 7,650 | 16.85 | 30.69 | 23.11 | 26.84 | 1.00 | 1.00 |

00019

AVOIDED GENERATION UNIT BENEFITS
PROGRAM: RADSE - MAJOR

* UNIT SIZE OF AVOIDED GENERATION UNIT = 7,497.0 KW
* INSERVICE COSTS OF AVOIDED GEN. UNIT (000) \$6,918.1

| (1) YEAR | (1A)* REVENUE REQUIREMENT FACTOR | (2) AVOIDED GEN UNIT CAPACITY COST \$(000) | (2A)* AVOIDED ANNUAL UNIT KWH GEN (000) | (3) AVOIDED UNIT FIXED O&M COST \$(000) | (4) AVOIDED GEN UNIT VARIABLE O&M COST \$(000) | (5) AVOIDED GEN UNIT FUEL COST \$(000) | (6) REPLACEMENT FUEL COST \$(000) | (6A)* AVOIDED PURCHASED CAPACITY COSTS \$(000) | (7) AVOIDED GEN UNIT BENEFITS \$(000) |
|-------------|---|---|--|--|---|---|--|---|---|
| 1992 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1993 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1994 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1995 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1996 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1997 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1998 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1999 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 0.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2001 | 0.217 | 1,500 | 13,135 | 47 | 85 | 498 | 946 | 0 | 1,184 |
| 2002 | 0.210 | 1,453 | 13,135 | 49 | 88 | 533 | 1,070 | 0 | 1,054 |
| 2003 | 0.203 | 1,402 | 13,135 | 51 | 92 | 570 | 1,241 | 0 | 874 |
| 2004 | 0.195 | 1,351 | 13,135 | 54 | 96 | 610 | 1,346 | 0 | 765 |
| 2005 | 0.188 | 1,303 | 13,135 | 56 | 101 | 653 | 1,595 | 0 | 518 |
| 2006 | 0.182 | 1,257 | 13,135 | 59 | 105 | 698 | 1,835 | 0 | 284 |
| 2007 | 0.175 | 1,212 | 13,135 | 61 | 110 | 747 | 2,073 | 0 | 58 |
| 2008 | 0.169 | 1,169 | 13,135 | 64 | 115 | 799 | 2,104 | 0 | 43 |
| 2009 | 0.163 | 1,127 | 13,135 | 67 | 120 | 855 | 2,130 | 0 | 38 |
| 2010 | 0.157 | 1,084 | 13,135 | 70 | 126 | 915 | 2,187 | 0 | 7 |
| 2011 | 0.151 | 1,042 | 13,135 | 73 | 131 | 978 | 2,186 | 0 | 39 |
| 2012 | 0.144 | 999 | 13,135 | 76 | 137 | 1,047 | 2,285 | 0 | (26) |
| 2013 | 0.138 | 956 | 13,135 | 80 | 143 | 1,120 | 2,384 | 0 | (85) |
| 2014 | 0.132 | 914 | 13,135 | 83 | 150 | 1,198 | 2,408 | 0 | (63) |
| 2015 | 0.126 | 871 | 13,135 | 87 | 157 | 1,282 | 2,464 | 0 | (68) |
| 2016 | 0.120 | 829 | 13,135 | 91 | 164 | 1,371 | 2,546 | 0 | (91) |
| 2017 | 0.114 | 786 | 13,135 | 95 | 171 | 1,467 | 2,673 | 0 | (154) |
| 2018 | 0.108 | 744 | 13,135 | 99 | 179 | 1,569 | 2,863 | 0 | (273) |
| 2019 | 0.101 | 701 | 13,135 | 104 | 187 | 1,679 | 2,863 | 0 | (194) |
| 2020 | 0.095 | 658 | 13,135 | 109 | 195 | 1,796 | 2,863 | 0 | (106) |
| 2021 | 0.090 | 621 | 13,135 | 113 | 204 | 1,921 | 2,863 | 0 | (5) |
| 2022 | 0.086 | 593 | 13,135 | 118 | 213 | 2,055 | 2,942 | 0 | 37 |
| 2023 | 0.082 | 569 | 13,135 | 124 | 223 | 2,199 | 3,017 | 0 | 97 |
| 2024 | 0.079 | 547 | 13,135 | 129 | 233 | 2,352 | 3,088 | 0 | 173 |
| 2025 | 0.076 | 523 | 13,135 | 135 | 243 | 2,516 | 3,167 | 0 | 251 |
| 2026 | 0.072 | 500 | 13,135 | 141 | 254 | 2,692 | 3,247 | 0 | 340 |
| 2027 | 0.069 | 477 | 13,135 | 148 | 265 | 2,880 | 3,327 | 0 | 442 |
| 2028 | 0.066 | 454 | 13,135 | 154 | 277 | 3,081 | 3,401 | 0 | 566 |
| 2029 | 0.062 | 430 | 13,135 | 161 | 290 | 3,296 | 3,460 | 0 | 718 |
| 2030 | 0.059 | 407 | 13,135 | 169 | 303 | 3,526 | 3,525 | 0 | 879 |
| NOMINAL | | 26,478 | 394,042 | 2,868 | 5,156 | 46,900 | 74,100 | 0 | 7,303 |
| NPV | | 4,949 | | 310 | 557 | 4,308 | 8,394 | 0 | 1,729 |

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

00020

AVOIDED T & D AND PROGRAM FUEL SAVINGS
PROGRAM: RADSE - MAJOR

* INSERVICE COSTS OF AVOIDED TRANS. (000) = \$0.0
* INSERVICE COSTS OF AVOIDED DIST. (000) = \$0.0

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---------|--|---------------------------------------|---|--|---------------------------------------|---|------------------------------|
| YEAR | AVOIDED TRANSMISSION CAPACITY COST \$(000) | AVOIDED TRANSMISSION O&M COST \$(000) | TOTAL AVOIDED TRANSMISSION COST \$(000) | AVOIDED DISTRIBUTION CAPACITY COST \$(000) | AVOIDED DISTRIBUTION O&M COST \$(000) | TOTAL AVOIDED DISTRIBUTION COST \$(000) | PROGRAM FUEL SAVINGS \$(000) |
| 1992 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 1993 | 0 | 0 | 0 | 0 | 0 | 0 | 39 |
| 1994 | 0 | 0 | 0 | 0 | 0 | 0 | 95 |
| 1995 | 0 | 0 | 0 | 0 | 0 | 0 | 161 |
| 1996 | 0 | 0 | 0 | 0 | 0 | 0 | 215 |
| 1997 | 0 | 0 | 0 | 0 | 0 | 0 | 280 |
| 1998 | 0 | 0 | 0 | 0 | 0 | 0 | 416 |
| 1999 | 0 | 0 | 0 | 0 | 0 | 0 | 561 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 660 |
| 2001 | 0 | 0 | 0 | 0 | 0 | 0 | 803 |
| 2002 | 0 | 0 | 0 | 0 | 0 | 0 | 1,017 |
| 2003 | 0 | 0 | 0 | 0 | 0 | 0 | 1,042 |
| 2004 | 0 | 0 | 0 | 0 | 0 | 0 | 1,230 |
| 2005 | 0 | 0 | 0 | 0 | 0 | 0 | 1,341 |
| 2006 | 0 | 0 | 0 | 0 | 0 | 0 | 1,755 |
| 2007 | 0 | 0 | 0 | 0 | 0 | 0 | 1,752 |
| 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 1,855 |
| 2009 | 0 | 0 | 0 | 0 | 0 | 0 | 1,940 |
| 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 2,145 |
| 2011 | 0 | 0 | 0 | 0 | 0 | 0 | 2,129 |
| 2012 | 0 | 0 | 0 | 0 | 0 | 0 | 2,181 |
| 2013 | 0 | 0 | 0 | 0 | 0 | 0 | 2,286 |
| 2014 | 0 | 0 | 0 | 0 | 0 | 0 | 2,309 |
| 2015 | 0 | 0 | 0 | 0 | 0 | 0 | 2,434 |
| 2016 | 0 | 0 | 0 | 0 | 0 | 0 | 2,538 |
| 2017 | 0 | 0 | 0 | 0 | 0 | 0 | 2,667 |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 2,831 |
| 2019 | 0 | 0 | 0 | 0 | 0 | 0 | 2,824 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 0 | 2,860 |
| 2021 | 0 | 0 | 0 | 0 | 0 | 0 | 2,896 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 0 | 2,987 |
| 2023 | 0 | 0 | 0 | 0 | 0 | 0 | 3,080 |
| 2024 | 0 | 0 | 0 | 0 | 0 | 0 | 3,176 |
| 2025 | 0 | 0 | 0 | 0 | 0 | 0 | 3,275 |
| 2026 | 0 | 0 | 0 | 0 | 0 | 0 | 3,379 |
| 2027 | 0 | 0 | 0 | 0 | 0 | 0 | 3,483 |
| 2028 | 0 | 0 | 0 | 0 | 0 | 0 | 3,593 |
| 2029 | 0 | 0 | 0 | 0 | 0 | 0 | 3,705 |
| 2030 | 0 | 0 | 0 | 0 | 0 | 0 | 3,821 |
| NOMINAL | 0 | 0 | 0 | 0 | 0 | 0 | 75,967 |
| NPV: | 0 | 0 | 0 | 0 | 0 | 0 | 9,374 |

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

TOTAL RESOURCE COST TESTS
PROGRAM: RADSE - MAJOR

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|---------------|--------------------------------|-------------------------------|--|---------------------|---------------------|-----------------------------------|--------------------------------|------------------------------|------------------------|------------------------|----------------------|--|
| YEAR | INCREASED SUPPLY COSTS \$(000) | UTILITY PROGRAM COSTS \$(000) | PARTICIPANT PROGRAM COSTS \$(000) | OTHER COSTS \$(000) | TOTAL COSTS \$(000) | AVOIDED GEN UNIT BENEFITS \$(000) | AVOIDED T & D BENEFITS \$(000) | PROGRAM FUEL SAVINGS \$(000) | OTHER BENEFITS \$(000) | TOTAL BENEFITS \$(000) | NET BENEFITS \$(000) | CUMULATIVE DISCOUNTED NET BENEFITS \$(000) |
| 1992 | 0 | 90 | 124 | 0 | 214 | 0 | 0 | 8 | 0 | 8 | (205) | (205) |
| 1993 | 0 | 189 | 259 | 0 | 448 | 0 | 0 | 39 | 0 | 39 | (409) | (577) |
| 1994 | 0 | 198 | 272 | 0 | 470 | 0 | 0 | 95 | 0 | 95 | (375) | (886) |
| 1995 | 0 | 207 | 285 | 0 | 492 | 0 | 0 | 161 | 0 | 161 | (331) | (1,134) |
| 1996 | 0 | 217 | 299 | 0 | 516 | 0 | 0 | 215 | 0 | 215 | (301) | (1,339) |
| 1997 | 0 | 228 | 313 | 0 | 540 | 0 | 0 | 280 | 0 | 280 | (261) | (1,501) |
| 1998 | 0 | 238 | 328 | 0 | 566 | 0 | 0 | 416 | 0 | 416 | (151) | (1,585) |
| 1999 | 0 | 250 | 344 | 0 | 594 | 0 | 0 | 561 | 0 | 561 | (33) | (1,602) |
| 2000 | 0 | 262 | 360 | 0 | 622 | 0 | 0 | 660 | 0 | 660 | 38 | (1,585) |
| 2001 | 0 | 0 | 0 | 0 | 0 | 1,184 | 0 | 803 | 0 | 1,987 | 1,987 | (746) |
| 2002 | 0 | 0 | 0 | 0 | 0 | 1,054 | 0 | 1,017 | 0 | 2,071 | 2,071 | 48 |
| 2003 | 0 | 0 | 0 | 0 | 0 | 874 | 0 | 1,042 | 0 | 1,916 | 1,916 | 716 |
| 2004 | 0 | 0 | 0 | 0 | 0 | 765 | 0 | 1,230 | 0 | 1,995 | 1,995 | 1,347 |
| 2005 | 0 | 0 | 0 | 0 | 0 | 518 | 0 | 1,541 | 0 | 2,059 | 2,059 | 1,939 |
| 2006 | 0 | 0 | 0 | 0 | 0 | 284 | 0 | 1,755 | 0 | 2,040 | 2,040 | 2,472 |
| 2007 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 1,752 | 0 | 1,809 | 1,809 | 2,902 |
| 2008 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 1,855 | 0 | 1,898 | 1,898 | 3,311 |
| 2009 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 1,940 | 0 | 1,978 | 1,978 | 3,699 |
| 2010 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 2,145 | 0 | 2,152 | 2,152 | 4,082 |
| 2011 | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 2,129 | 0 | 2,168 | 2,168 | 4,433 |
| 2012 | 0 | 0 | 0 | 0 | 0 | (26) | 0 | 2,181 | 0 | 2,155 | 2,155 | 4,750 |
| 2013 | 0 | 0 | 0 | 0 | 0 | (85) | 0 | 2,286 | 0 | 2,201 | 2,201 | 5,044 |
| 2014 | 0 | 0 | 0 | 0 | 0 | (63) | 0 | 2,309 | 0 | 2,247 | 2,247 | 5,317 |
| 2015 | 0 | 0 | 0 | 0 | 0 | (68) | 0 | 2,434 | 0 | 2,366 | 2,366 | 5,578 |
| 2016 | 0 | 0 | 0 | 0 | 0 | (91) | 0 | 2,538 | 0 | 2,447 | 2,447 | 5,823 |
| 2017 | 0 | 0 | 0 | 0 | 0 | (154) | 0 | 2,667 | 0 | 2,512 | 2,512 | 6,052 |
| 2018 | 0 | 0 | 0 | 0 | 0 | (273) | 0 | 2,831 | 0 | 2,558 | 2,558 | 6,263 |
| 2019 | 0 | 0 | 0 | 0 | 0 | (194) | 0 | 2,824 | 0 | 2,630 | 2,630 | 6,461 |
| 2020 | 0 | 0 | 0 | 0 | 0 | (106) | 0 | 2,860 | 0 | 2,753 | 2,753 | 6,649 |
| 2021 | 0 | 0 | 0 | 0 | 0 | (5) | 0 | 2,896 | 0 | 2,891 | 2,891 | 6,828 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 2,987 | 0 | 3,024 | 3,024 | 6,999 |
| 2023 | 0 | 0 | 0 | 0 | 0 | 97 | 0 | 3,080 | 0 | 3,177 | 3,177 | 7,162 |
| 2024 | 0 | 0 | 0 | 0 | 0 | 173 | 0 | 3,176 | 0 | 3,348 | 3,348 | 7,317 |
| 2025 | 0 | 0 | 0 | 0 | 0 | 251 | 0 | 3,275 | 0 | 3,526 | 3,526 | 7,466 |
| 2026 | 0 | 0 | 0 | 0 | 0 | 340 | 0 | 3,379 | 0 | 3,719 | 3,719 | 7,609 |
| 2027 | 0 | 0 | 0 | 0 | 0 | 442 | 0 | 3,483 | 0 | 3,926 | 3,926 | 7,746 |
| 2028 | 0 | 0 | 0 | 0 | 0 | 566 | 0 | 3,593 | 0 | 4,159 | 4,159 | 7,878 |
| 2029 | 0 | 0 | 0 | 0 | 0 | 718 | 0 | 3,705 | 0 | 4,422 | 4,422 | 8,006 |
| 2030 | 0 | 0 | 0 | 0 | 0 | 879 | 0 | 3,821 | 0 | 4,700 | 4,700 | 8,129 |
| NOMINAL | 0 | 1,879 | 2,583 | 0 | 4,461 | 7,303 | 0 | 75,967 | 0 | 83,270 | 78,808 | |
| NPV: | 0 | 1,252 | 1,722 | 0 | 2,975 | 1,729 | 0 | 9,374 | 0 | 11,104 | 8,129 | |
| Discount Rate | | 10.06% | Benefit/Cost Ratio - [col (11)/col (6)]: | | | | 3.7 | | | | | |

00000

PARTICIPANT COSTS AND BENEFITS
PROGRAM: RADSE - MAJOR

00000

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---------|--|---------------------------|-------------------------------|------------------------------|------------------------------|---|---------------------------------------|---------------------------|---------------------------|----------------------------|---|
| YEAR | SAVINGS IN PARTICIPANTS BILL \$(000) | TAX CREDITS \$(000) | UTILITY REBATES \$(000) | OTHER BENEFITS \$(000) | TOTAL BENEFITS \$(000) | CUSTOMER EQUIPMENT COSTS \$(000) | CUSTOMER O & M COSTS \$(000) | OTHER COSTS \$(000) | TOTAL COSTS \$(000) | NET BENEFITS \$(000) | CUMULATIVE DISCOUNTED NET BENEFITS \$(000) |
| 1992 | 24 | 0 | 79 | 0 | 102 | 124 | 0 | 0 | 124 | (21) | (21) |
| 1993 | 98 | 0 | 158 | 0 | 255 | 259 | 0 | 0 | 259 | (4) | (25) |
| 1994 | 204 | 0 | 158 | 0 | 361 | 272 | 0 | 0 | 272 | 90 | 49 |
| 1995 | 320 | 0 | 158 | 0 | 478 | 285 | 0 | 0 | 285 | 193 | 194 |
| 1996 | 441 | 0 | 158 | 0 | 598 | 299 | 0 | 0 | 299 | 300 | 398 |
| 1997 | 572 | 0 | 158 | 0 | 730 | 313 | 0 | 0 | 313 | 417 | 656 |
| 1998 | 720 | 0 | 158 | 0 | 877 | 328 | 0 | 0 | 328 | 549 | 965 |
| 1999 | 880 | 0 | 158 | 0 | 1,038 | 344 | 0 | 0 | 344 | 694 | 1,320 |
| 2000 | 1,046 | 0 | 158 | 0 | 1,203 | 360 | 0 | 0 | 360 | 843 | 1,712 |
| 2001 | 1,165 | 0 | 0 | 0 | 1,165 | 0 | 0 | 0 | 0 | 1,165 | 2,203 |
| 2002 | 1,242 | 0 | 0 | 0 | 1,242 | 0 | 0 | 0 | 0 | 1,242 | 2,680 |
| 2003 | 1,297 | 0 | 0 | 0 | 1,297 | 0 | 0 | 0 | 0 | 1,297 | 3,131 |
| 2004 | 1,367 | 0 | 0 | 0 | 1,367 | 0 | 0 | 0 | 0 | 1,367 | 3,564 |
| 2005 | 1,458 | 0 | 0 | 0 | 1,458 | 0 | 0 | 0 | 0 | 1,458 | 3,984 |
| 2006 | 1,542 | 0 | 0 | 0 | 1,542 | 0 | 0 | 0 | 0 | 1,542 | 4,387 |
| 2007 | 1,614 | 0 | 0 | 0 | 1,614 | 0 | 0 | 0 | 0 | 1,614 | 4,770 |
| 2008 | 1,704 | 0 | 0 | 0 | 1,704 | 0 | 0 | 0 | 0 | 1,704 | 5,138 |
| 2009 | 1,767 | 0 | 0 | 0 | 1,767 | 0 | 0 | 0 | 0 | 1,767 | 5,484 |
| 2010 | 1,869 | 0 | 0 | 0 | 1,869 | 0 | 0 | 0 | 0 | 1,869 | 5,817 |
| 2011 | 1,928 | 0 | 0 | 0 | 1,928 | 0 | 0 | 0 | 0 | 1,928 | 6,129 |
| 2012 | 2,018 | 0 | 0 | 0 | 2,018 | 0 | 0 | 0 | 0 | 2,018 | 6,426 |
| 2013 | 2,128 | 0 | 0 | 0 | 2,128 | 0 | 0 | 0 | 0 | 2,128 | 6,710 |
| 2014 | 2,197 | 0 | 0 | 0 | 2,197 | 0 | 0 | 0 | 0 | 2,197 | 6,977 |
| 2015 | 2,303 | 0 | 0 | 0 | 2,303 | 0 | 0 | 0 | 0 | 2,303 | 7,231 |
| 2016 | 2,409 | 0 | 0 | 0 | 2,409 | 0 | 0 | 0 | 0 | 2,409 | 7,472 |
| 2017 | 2,531 | 0 | 0 | 0 | 2,531 | 0 | 0 | 0 | 0 | 2,531 | 7,702 |
| 2018 | 2,690 | 0 | 0 | 0 | 2,690 | 0 | 0 | 0 | 0 | 2,690 | 7,925 |
| 2019 | 2,756 | 0 | 0 | 0 | 2,756 | 0 | 0 | 0 | 0 | 2,756 | 8,132 |
| 2020 | 2,853 | 0 | 0 | 0 | 2,853 | 0 | 0 | 0 | 0 | 2,853 | 8,327 |
| 2021 | 2,953 | 0 | 0 | 0 | 2,953 | 0 | 0 | 0 | 0 | 2,953 | 8,510 |
| 2022 | 3,057 | 0 | 0 | 0 | 3,057 | 0 | 0 | 0 | 0 | 3,057 | 8,682 |
| 2023 | 3,165 | 0 | 0 | 0 | 3,165 | 0 | 0 | 0 | 0 | 3,165 | 8,845 |
| 2024 | 3,276 | 0 | 0 | 0 | 3,276 | 0 | 0 | 0 | 0 | 3,276 | 8,997 |
| 2025 | 3,391 | 0 | 0 | 0 | 3,391 | 0 | 0 | 0 | 0 | 3,391 | 9,140 |
| 2026 | 3,511 | 0 | 0 | 0 | 3,511 | 0 | 0 | 0 | 0 | 3,511 | 9,275 |
| 2027 | 3,634 | 0 | 0 | 0 | 3,634 | 0 | 0 | 0 | 0 | 3,634 | 9,402 |
| 2028 | 3,762 | 0 | 0 | 0 | 3,762 | 0 | 0 | 0 | 0 | 3,762 | 9,522 |
| 2029 | 3,895 | 0 | 0 | 0 | 3,895 | 0 | 0 | 0 | 0 | 3,895 | 9,634 |
| 2030 | 4,032 | 0 | 0 | 0 | 4,032 | 0 | 0 | 0 | 0 | 4,032 | 9,739 |
| NOMINAL | 77,820 | 0 | 1,339 | 0 | 79,159 | 2,583 | 0 | 0 | 2,583 | 76,576 | |
| NPV: | 10,544 | 0 | 917 | 0 | 11,462 | 1,722 | 0 | 0 | 1,722 | 9,739 | |

In service year of gen unit: 2001
Discount rate: 10.06%

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|--------------|------------------------|-----------------------|------------|----------------|-------------|-------------|--|------------------------|---------------|----------------|----------------|-------------------------------|-----------------------------------|
| YEAR | INCREASED SUPPLY COSTS | UTILITY PROGRAM COSTS | INCENTIVES | REVENUE LOSSES | OTHER COSTS | TOTAL COSTS | AVOIDED GEN UNIT LIMIT & FUEL BENEFITS | AVOIDED T & D BENEFITS | REVENUE GAINS | OTHER BENEFITS | TOTAL BENEFITS | NET BENEFITS TO ALL CUSTOMERS | CUMULATIVE DISCOUNTED NET BENEFIT |
| | \$(000) | \$(000) | \$(000) | \$(000) | \$(000) | \$(000) | \$(000) | \$(000) | \$(000) | \$(000) | \$(000) | \$(000) | \$(000) |
| 1992 | 0 | 90 | 79 | 13 | 0 | 182 | 8 | 0 | 0 | 0 | 8 | (173) | (173) |
| 1993 | 0 | 189 | 158 | 52 | 0 | 398 | 39 | 0 | 0 | 0 | 39 | (359) | (500) |
| 1994 | 0 | 198 | 158 | 104 | 0 | 460 | 95 | 0 | 0 | 0 | 95 | (365) | (811) |
| 1995 | 0 | 207 | 158 | 156 | 0 | 521 | 161 | 0 | 0 | 0 | 161 | (360) | (1,071) |
| 1996 | 0 | 217 | 158 | 209 | 0 | 583 | 215 | 0 | 0 | 0 | 215 | (368) | (1,322) |
| 1997 | 0 | 228 | 158 | 261 | 0 | 646 | 280 | 0 | 0 | 0 | 280 | (366) | (1,548) |
| 1998 | 0 | 238 | 158 | 313 | 0 | 709 | 416 | 0 | 0 | 0 | 416 | (293) | (1,713) |
| 1999 | 0 | 250 | 158 | 365 | 0 | 773 | 561 | 0 | 0 | 0 | 561 | (212) | (1,822) |
| 2000 | 0 | 262 | 158 | 417 | 0 | 837 | 660 | 0 | 0 | 0 | 660 | (1,904) | (1,904) |
| 2001 | 0 | 0 | 0 | 137 | 0 | 137 | 1,987 | 0 | 0 | 0 | 1,987 | 1,850 | (1,123) |
| 2002 | 0 | 0 | 0 | 137 | 0 | 137 | 2,071 | 0 | 0 | 0 | 2,071 | 1,954 | (381) |
| 2003 | 0 | 0 | 0 | 137 | 0 | 137 | 1,916 | 0 | 0 | 0 | 1,916 | 1,780 | 239 |
| 2004 | 0 | 0 | 0 | 137 | 0 | 137 | 1,995 | 0 | 0 | 0 | 1,995 | 1,858 | 827 |
| 2005 | 0 | 0 | 0 | 137 | 0 | 137 | 2,059 | 0 | 0 | 0 | 2,059 | 1,922 | 1,390 |
| 2006 | 0 | 0 | 0 | 137 | 0 | 137 | 2,040 | 0 | 0 | 0 | 2,040 | 1,903 | 1,877 |
| 2007 | 0 | 0 | 0 | 137 | 0 | 137 | 1,809 | 0 | 0 | 0 | 1,809 | 1,673 | 2,274 |
| 2008 | 0 | 0 | 0 | 137 | 0 | 137 | 1,898 | 0 | 0 | 0 | 1,898 | 1,761 | 2,654 |
| 2009 | 0 | 0 | 0 | 137 | 0 | 137 | 1,978 | 0 | 0 | 0 | 1,978 | 1,841 | 3,015 |
| 2010 | 0 | 0 | 0 | 137 | 0 | 137 | 2,152 | 0 | 0 | 0 | 2,152 | 2,016 | 3,374 |
| 2011 | 0 | 0 | 0 | 137 | 0 | 137 | 2,168 | 0 | 0 | 0 | 2,168 | 2,031 | 3,703 |
| 2012 | 0 | 0 | 0 | 137 | 0 | 137 | 2,155 | 0 | 0 | 0 | 2,155 | 2,018 | 4,000 |
| 2013 | 0 | 0 | 0 | 137 | 0 | 137 | 2,201 | 0 | 0 | 0 | 2,201 | 2,064 | 4,275 |
| 2014 | 0 | 0 | 0 | 137 | 0 | 137 | 2,247 | 0 | 0 | 0 | 2,247 | 2,110 | 4,532 |
| 2015 | 0 | 0 | 0 | 137 | 0 | 137 | 2,366 | 0 | 0 | 0 | 2,366 | 2,229 | 4,777 |
| 2016 | 0 | 0 | 0 | 137 | 0 | 137 | 2,447 | 0 | 0 | 0 | 2,447 | 2,311 | 5,009 |
| 2017 | 0 | 0 | 0 | 137 | 0 | 137 | 2,512 | 0 | 0 | 0 | 2,512 | 2,376 | 5,225 |
| 2018 | 0 | 0 | 0 | 137 | 0 | 137 | 2,558 | 0 | 0 | 0 | 2,558 | 2,422 | 5,426 |
| 2019 | 0 | 0 | 0 | 137 | 0 | 137 | 2,630 | 0 | 0 | 0 | 2,630 | 2,493 | 5,613 |
| 2020 | 0 | 0 | 0 | 137 | 0 | 137 | 2,753 | 0 | 0 | 0 | 2,753 | 2,617 | 5,792 |
| 2021 | 0 | 0 | 0 | 137 | 0 | 137 | 2,891 | 0 | 0 | 0 | 2,891 | 2,755 | 5,963 |
| 2022 | 0 | 0 | 0 | 137 | 0 | 137 | 3,024 | 0 | 0 | 0 | 3,024 | 2,887 | 6,125 |
| 2023 | 0 | 0 | 0 | 137 | 0 | 137 | 3,177 | 0 | 0 | 0 | 3,177 | 3,041 | 6,281 |
| 2024 | 0 | 0 | 0 | 137 | 0 | 137 | 3,348 | 0 | 0 | 0 | 3,348 | 3,212 | 6,431 |
| 2025 | 0 | 0 | 0 | 137 | 0 | 137 | 3,526 | 0 | 0 | 0 | 3,526 | 3,390 | 6,574 |
| 2026 | 0 | 0 | 0 | 137 | 0 | 137 | 3,719 | 0 | 0 | 0 | 3,719 | 3,583 | 6,712 |
| 2027 | 0 | 0 | 0 | 137 | 0 | 137 | 3,926 | 0 | 0 | 0 | 3,926 | 3,789 | 6,844 |
| 2028 | 0 | 0 | 0 | 137 | 0 | 137 | 4,159 | 0 | 0 | 0 | 4,159 | 4,022 | 6,971 |
| 2029 | 0 | 0 | 0 | 137 | 0 | 137 | 4,422 | 0 | 0 | 0 | 4,422 | 4,286 | 7,095 |
| 2030 | 0 | 0 | 0 | 137 | 0 | 137 | 4,700 | 0 | 0 | 0 | 4,700 | 4,563 | 7,214 |
| MINIMAL NPV: | 0 | 1,879 | 1,339 | 5,089 | 0 | 9,206 | 83,270 | 0 | 0 | 0 | 83,270 | 76,063 | |
| | 0 | 1,252 | 917 | 1,719 | 0 | 3,889 | 11,104 | 0 | 0 | 0 | 11,104 | 7,214 | |

Discount rate:

10.06%

Benefit/Cost Ratio - [col (12)/col (7)]:

2.9

00024