9.3 Basic Evaluation Conditions

9.3.1 Set Conditions

The data and conditions used in determining the optimum investment case by the above models are as follow.

(1) Power demand forecast

Of the three cases of power demand forecast (base, high demand, and low demand) set by the energy demand forecast model, the two cases, excepting the case of low demand, shall be discussed. The rate of growth of power demand in each of the two cases is as follows.

Table 9.3.1 ASSUMPTION FOR POWER DEMAND FORECAST

| Annual Growth F | late | |
|-----------------|-------------|-------------|
| (1995-2000) | (2001-2010) | (2011-2025) |
| (%) | (%) | (%) |
| 7.50% | 7.30% | 6.60% |
| 8.00% | 8.40% | 7.40% |

Base Case High Case

(2) Power supply plans

For each of the above two cases of power demand, three different power supply plans shall be set as follows. Thus, based on evaluation results, the optimum power supply plan shall be selected for each of the two cases of power demand (base and high demand). Since the supply of power from the existing equipment is an invariable condition which does not influence the process of selection of an optimum plan, it shall be excluded from the power supply plan to simplify the procedure.

Table 9.3.2 ALTERNATIVE CASE

| | | 7 | |
|-----------|-----|------|-------|
| Base Case | 1-1 | 11-1 | III-1 |
| High Case | 1-2 | 11-2 | 10-2 |

- (3) Types of power generating equipment and fuels used
- 1) From the technical viewpoint, the following types of power generating equipment shall be used in combination for the six different power supply plans shown above.
 - a) Diesel generator: 29MW
 - b) Diesel generator: 50MW
 - c) Gas turbine generator (GT): 50MW
 - d) Gas turbine generator (GT): 150MW
 - e) Combined cycle gas turbine generator (CCGT): 150MW
 - f) Combined cycle gas turbine generator (CCGT): 225MW
 - g) Coal-fired steam turbine generator: 100MW

2) Fuels used

As a rule, the power generating equipment shown above shall use the following fuels. All these fuels shall be imported from abroad. As the fuel prices, those obtained by the energy forecast model shall be applied.

Fuel type Generator type

a) Heavy oil : Diesel generator

b) Kerosene oil : GT and CCGT

c) Coal : Coal-fired steam turbine generator

- (3) General conditions (prices, evaluation conditions, etc.)
- 1) Base prices and base date

The base date on which to set prices shall be July 1, 1996.

2) Base currency

The base currency used in the evaluation shall be the US dollar.

3) Exchange rate

The rates of conversion from some foreign currencies to the US dollar shall be as follows.





1 US = Rs 20.0965

1 US = J. Yen 110.0153

1 US\$ = F.Fr 5.1735

Since Mauritius employs a complete floating exchange rate system, it is assumed that the exchange rate is free from distortion. Therefore, the shadow exchange rate shall not be applied on the premise that the rupee depreciates 2% annually.

Application of escalation 4)

Price increases shall be reflected on all prices. However, since the study period is long (until the year 2025), the escalation shall be applied only as far as 2005 and fixed prices shall be used after that. With the exception of those items which require application of a separate escalation rate (e.g., fuels), the following escalation rates shall as a rule be applied.

For foreign currencies: 2.0% p.a.

For domestic currency: 3.5% p.a.

Transfer costs

The transfer costs used in calculating economic costs shall be based on the tax rates and public charges prevailing in 1996.

Discount rate

Taking into account the interest rates, discount rates, etc. prevailing in the financial market of Mauritius, 12% shall as a rule be used as the discount rate for calculating the present value of total cost. However, in order to cope with a change of the financial climate in the future and in view of private-participated projects, like BOT and IPP, the model shall be capable of calculating present value with a widely varying discount rate so as to permit analyzing the relative fluctuation of total cost due to a change of discount rate.

| Year | Central Bank's discount rate | Call rate |
|------|------------------------------|-----------|
| 1991 | 11.3% | 12.2% |
| 1992 | 8.3% | 9.0% |
| 1993 | 8.3% | 7.7% |
| 1994 | 13.8% | 10.2% |
| 1995 | 11.4% | 10.3% |

(4) Investment cost

1) Investment period

The period of investment includes all investments, from the investment in the Fort George No. 3 power plant (29 MW) to be put into operation in 1997 to the investment in equipment to be put into operation in 2025.

2) Disbursement plan

The disbursement plan (construction plan) for each type of power generating equipment shall be as follows.

| Power generating equipment | 1st year | 2nd year | 3rd year | 4th year |
|----------------------------|----------|----------|----------|----------|
| GT | 100% | 0% | 0% | 0% |
| DIESEL | 60% | 40% | 0% | 0% |
| CCGT | 20% | 60% | 20% | 0% |
| COAL | 10% | 40% | 40% | 20% |



3) Currencies invested

The currency composition for the investment in equipment shall be as follows.

Foreign currencies: 80%

Domestic currency: 20%

4) Import duties

Import duties applied to the equipment imported shall be as follows.

Imported equipment (complete units): 0%

Spare parts (when imported separately): 15%

5) Base cost of construction

The base cost of construction for each type of power generating equipment per kW on



the base date shall be as follows. It should be noted that the amounts shown include preoperational expenses and initial operating expenses (inventory of fuels, etc.) but that they do not include financial costs, such as the interest during the period of construction.

| | Equipment type | Base cost per kW (US\$) |
|----|-----------------------|-------------------------|
| a. | GT-50 | 480 |
| b. | GT-75 | 450 |
| c. | DIESEL-29 | 1,530 |
| d. | DIESEL-50 | 1,450 |
| e. | CCGT-150 | 680 |
| f. | CCGT-225 | 570 |
| g. | COAL-100 (1/2), (1/3) | 1,390 |
| h. | COAL-100 (2/2),(2/3) | 1,270 |
| i. | COAL-100 (3/3) | 1,190 |
| | | |

Note: Concerning the coal-fired power generating equipment, in the case of the 2-unit package (1/2, 2/2) and 3-unit package (1/3, 2/3, 3/3), the amount of investment becomes smaller for the succeeding units as shown above.

6) Durable periods (operating years)

The operating years of each type of equipment shall be as follows. In the case of a gas turbine generator, it is often converted into a CCGT after one or two years of operation. In this case, the durable period is assumed to be one year (two years) in the schedule.

| Durable period |
|----------------|
| 15 年 |
| 20年 |
| 25 年 |
| 25 年 |
| |





| Туре | Package | Capacity | Construction | Construction | Disbursement Schedule (Base Cost) | | | | |
|--------|-----------|-----------|--------------|--------------|-----------------------------------|----------|----------|----------|--|
| | Plan | (MW/Unit) | Cost | Period | 1st Year | 2nd Year | 3rd Year | 4th Year | |
| - | ļ | | (US\$/KW) | (Year) | | | | | |
| GT | - | 50 | 480 | 0.0075 | 24,000 | 0 | 0 | 0 | |
| | <u> -</u> | 75 | 450 | 0.0075 | 33,750 | 0 | 0 | 0 | |
| CCGT | - | 150 | 680 | 3 | 20,400 | 61,200 | 20,400 | 0 | |
| | <u>-</u> | 225 | 570 | 3 | 25,650 | 76,950 | 25,650 | 0 | |
| DIESEL | - | 29 | 1,530 | 2 | 26,622 | 17,748 | 0 | 0 | |
| •• | | 50 | 1,450 | 2 | 43,500 | 29,000 | 0 | 0 | |
| COAL-1 | 1st Unit | 100 | 1,390 | 4 | 13,900 | 55,600 | 55,600 | 13,900 | |
| | 2nd Unit | 100 | 1,270 | 4 | 12,700 | 50,800 | 50,800 | 12,700 | |
| COAL-2 | 1st Unit | 100 | 1,390 | 4 | 13,900 | 55,600 | 55,600 | 13,900 | |
| | 2nd Unit | 100 | 1,270 | 4 | 12,700 | 50,800 | 50,800 | 12,700 | |
| | 3rd Unit | 100 | 1,190 | 4 | 11,900 | 47,600 | 47,600 | 11,900 | |



(5) Operating costs

1) Variable costs

Of the variable costs of the thermal power generation project, the sources of energy (i.e., fuels) account for the great majority. Therefore, they shall be treated separately from the other variable costs.

A. Fuel costs

The fuel prices in the base year based on the energy forecast are as follows.

Fuel type Domestic price (Rs) Domestic price (US\$)

Gas oil Rs5.40/L \$0.2687/L Kerosene Rs3.60/L \$0.1791/L Heavy oil Rs2.50/L \$0.1244/L Coal Rs943.00/MT \$46.9236 /MT

The estimated rates of price increases are as follows.



| | Price increase rate | |
|-----------|---------------------|-----------|
| Fuel type | <u>1995-2000</u> | 2001-2005 |
| Gas oil | 4.564 % | 4.753 % |
| Kerosene | 4.809 % | 4.661 % |
| Heavy oil | 4.564 % | 4.841 % |
| Coal | 3.797 % | 3.802 % |

The fuel prices used in the present study are as follows.

| - | Import price | Delivery price | <u>Tax</u> | |
|-----------|--------------|----------------|------------|----------|
| Fuel type | (CIF Rs/I) | (<u>Rs/l)</u> | (Rs/1) | Tax rate |
| Gas oil | 2,4228 | 4.5201 | 1.9852 | 43.92 % |
| Kerosene | 3.1754 | 3.4200 | 0.2003 | 5.86% |
| Heavy oil | 2.2530 | 2.6311 | 0.3781 | 14.37% |
| Coal | 1,083.38 | 1,486.03 | 160.55 | 10.80% |

Table 9.3.4 FUEL TABLE

| | | Diesel | GT-1 | GT-2 | CCGT | CCGT | Coal |
|----------------|--------------|------------|---------|---------|----------|----------|----------|
| | UNIT | (29,50 MW) | (50 MW) | (75 MW) | (150 MW) | (225 MW) | (100 MW) |
| Heat Rate | kJ/kWh | 7708 | 11800 | | 7383 | 7144 | 11720 |
| Cal. Value | MJ/kg | 40.5 | 43.4 | 43.4 | 43.4 | 43.4 | 25.79 |
| CIF Cost | US\$/L or Kg | 0.1139 | 0.1588 | 0.1588 | 0.1588 | 0.1588 | 0.0570 |
| Delivered Cost | US\$/I | 0.1310 | 0.2043 | 0.2043 | 0.2043 | 0.2043 | 0.0740 |
| | US\$/MWH | 24.96 | 70.31 | 63.16 | 43.99 | 42.57 | 33.62 |
| Tax component | % | 14.37% | 16.67% | 16.67% | 16.67% | 16,67% | 10.80% |

B. Other variable costs

1000

Though other variable costs differ from one type of equipment to another, they include industrial water (BFW, cooling water, etc.), chemicals, limestone (for desulfurization and denitrification), lubricants, and other consumables. The standard variable costs used in the present study are shown in Table 9.3.5. Concerning the limestone for desulfurization and denitrification in thermal power generation, its cost is estimated to be US\$10 per kilogram considering that it can be procured domestically. If this is impossible for environmental reasons, the limestone has to be imported from Madagascar, etc. In this case, the cost will become higher.

Table 9.3.5 OTHER VARIABLE COSTS

| | | | Diesel | Diesel | GT | GT. | CCGT | CCGT | COAL |
|------------------------|----------|--------------|--------|--------|--------|--------|--------|--------|--------|
| | Unit | Unit Cost | (29) | (50) | (50) | (75) | (150) | (225) | (100) |
| | | (US\$/ | (US\$/ | (US\$/ | (US\$/ | (US\$/ | (US\$/ | (US\$/ | (US\$/ |
| | | Unit) | MWH) |
| Water (L) | US\$/MT | 0.3 | 0.36 | 0.36 | 0 | 0 | 0 | 0 | 0.0954 |
| Limestone (L.) | US\$/MT | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 3.694 |
| Chemicals (F) | US\$/Kg | <u> </u> | 0 | 3.45 | 1 | 1 | 1 | 1 | 0 |
| Lubeoil/Consumable (F) | US\$/KL | | 8.73 | 8.73 | 1 | 1 | 1 | 1 | 0 |
| Other (F) | US\$/Lot | - | 1 | 1 | 1 | 1 | 1 | 1 | 0.0307 |
| TOTAL | | | 10.09 | 13.54 | 3 | 3 | 3 | 3 | 3.8201 |
| Tax Rate | % | | 49.07% | 41.67% | 30.00% | 30.00% | 30.00% | 30.00% | 14.63% |

2) Fixed costs

The fixed costs consist mainly of labor cost, factory overhead, and general administrative expenses including the head office expenses. In addition, there are repair costs, insurances, taxes, etc. They were all estimated as percents to the fixed cost of investment in the power generating equipment. The labor cost (salaries)—the main part of personnel expenses—was estimated assuming the average factory organization and salaries with the scale of the present factory organization and salary ranking of CEB as a reference. The breakdown of estimated fixed costs of each type of power generating equipment is shown in Table 9.3.6.

Table 9.3.6 FIXED COST

| | Unit | F/L. | Diesel (29) | Diesel (50) | GT (50) | GT (75) | (150) | (225) | (100) | NOTE | Tax Rate |
|------------------|----------|---|----------------|----------------|------------|------------|-------|-------|-------|-------------------------|----------|
| Labor Cost (LC) | % x FIC | L | 0.67% | 0.67% | 1.07% | 1.07% | 0.26% | | 0.35% | Based on CEB's practice | 20.00% |
| Factory Overhead | % x FIC | L | 0.40% | 0.40% | 0.64% | 0.64% | 0.16% | 0.16% | 0.21% | Labour cost x 60% | 20.00% |
| Expenses | % x FIC | L | 0.34% | 0.34% | 0.53% | 0.53% | 0.13% | 0.13% | 0.18% | Labour cost x 50% | 20.00% |
| Maintenance Cost | % x FIC | F | 1.30% | 1.30% | 1.30% | 1.30% | 1.30% | 1,30% | 1.30% | FIC x 1.3% | 15.00% |
| Insurance | % x FIC | <u>L</u> | 0.60% | 0.60% | 0.60% | 0.60% | 0.60% | 0.60% | 0.60% | FIC x 0.6% | 10.00% |
| Taxes | % x FtC | L | 0.50% | 0.50% | 0.50% | 0.50% | 0.50% | 0.50% | 0.50% | FIC x 0.5% | |
| Other | % x FIC | L | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% | FIC x 0.2% | 10.00% |
| Total | <u> </u> | <u>l </u> | 4.02% | 4.02% | 4.84% | 4.84% | 3.15% | 3.15% | 3.34% | | |



9 - 40



| 435 | |
|-----|--|
| ં | |
| | |

| Fuel Cost | Available | Unit | Fuel | Unit Cost | Escalation | Tax Rate | Standard | Base Cost |
|---------------|-------------|------|----------|-------------|------------|----------|----------|------------|
| ruei Cost | Capacity(M) | | | (US\$/Unit) | Rate(%) | (%) | (%) | (1000\$/Y) |
| Diesel-29 | 29 | MWH | Fuel Oil | 24.96 | 2.65% | 14.37% | 61.97% | 3,364 |
| Diesel-50 | 50 | MWH | Fuel Oil | 24.96 | 2.65% | 14.37% | 61.97% | 5,801 |
| GT-50 | 50 | MWH | Kerosene | 70.31 | 2.65% | 16.67% | 61.97% | 15,904 |
| GT-75 | 75 | MWH | Kerosene | 63.16 | 2.65% | 16.67% | 61.97% | 21,431 |
| CCGT-150 | 150 | MWH | Kerosene | 43.99 | 2.65% | 16.67% | 61.97% | 29,853 |
| CCGT-225 | 225 | MWH | Kerosene | 42.57 | 2.65% | 16.67% | 61.97% | 43,329 |
| Coal-100(1/2) | 100 | MWH | Coal | 33.62 | 1.76% | 10.80% | 61.97% | 16,277 |
| Coal-100(2/2) | 100 | MWH | Coal | 33.62 | 1.76% | 10.80% | 61.97% | 16,277 |
| Coal-100(1/3) | 100 | MWH | Coal | 33.62 | 1.76% | 10.80% | 61.97% | 16,277 |
| Coal-100(2/3) | 100 | MWH | Coal | 33.62 | 1.76% | 10.80% | 61.97% | |
| Coal-100(3/3) | 100 | MWH | Coal | 33.62 | 1.76% | 10.80% | 61.97% | 16,277 |

Table 9.3.8 ADJUSTED VARIABLE COST

| A sallable | I Init | E Coct | -Cost | Base Cost | Escalation | Tax Rate | Standard | Cost in 2005 |
|------------|---|---|---|---|--|--|---|---|
| | | F-0081 | L-Oos. | | | (%) | Load Factor | (1000\$/Y) |
| | | 0.70 | 0.26 | 1 | | | 70.00% | 1.794 |
| 29 | | | | ~ | | | | 4,151 |
| 50 | | 13.18 | 0.36 | | | | | |
| 50 | MWH | 3 | 0 | l | | | | |
| 75 | HWM | 3 | 0 | 3 | | | | |
| 150 | MWH | 3 | 0 | 3 | 2.00% | 30.00% | | |
| | | .3 | 0 | 3 | 2.00% | 30.00% | 70.00% | |
| | | 0.0307 | 3 7894 | 3.8201 | 3.49% | 14.63% | 70.00% | 2,342 |
| · | 1 | l | | | | 14.63% | 70.00% | 2,342 |
| l | | | | | | | · | 2,342 |
| 100 | 1 | I | | | · | l | | |
| 100 | MWH | 0.0307 | | } | | · | | · · · · · · · · · · · · · · · · · · · |
| 100 | MWH | 0.0307 | 3.7894 | 3.8201 | 3.49% | 14.63% | 10.00% | 1 2,342 |
| | 29 50 50 75 150 225 100 100 100 | Capacity(MW) 29 MWH 50 MWH 75 MWH 150 MWH 150 MWH 225 MWH 100 MWH 100 MWH 100 MWH 100 MWH | Capacity(MW) 29 MWH 9.73 50 MWH 13.18 50 MWH 3 75 MWH 3 150 MWH 3 225 MWH 3 100 MWH 0.0307 100 MWH 0.0307 100 MWH 0.0307 100 MWH 0.0307 | Capacity(MW) 29 MWH 9.73 0.36 50 MWH 13.18 0.36 50 MWH 3 0 75 MWH 3 0 150 MWH 3 0 225 MWH 3 0 100 MWH 0.0307 3.7894 100 MWH 0.0307 3.7894 100 MWH 0.0307 3.7894 100 MWH 0.0307 3.7894 | Capacity(MW) 29 MWH 9.73 0.36 10.09 50 MWH 13.18 0.36 13.54 50 MWH 3 0 3 75 MWH 3 0 3 150 MWH 3 0 3 150 MWH 3 0 3 100 MWH 3 0 3 100 MWH 0.0307 3.7894 3.8201 100 MWH 0.0307 3.7894 3.8201 100 MWH 0.0307 3.7894 3.8201 100 MWH 0.0307 3.7894 3.8201 | Available (US\$/MWH) Rate (%) 29 MWH 9.73 0.36 10.09 2.05% 50 MWH 13.18 0.36 13.54 2.04% 50 MWH 3 0 3 2.00% 75 MWH 3 0 3 2.00% 150 MWH 3 0 3 2.00% 225 MWH 3 0 3 2.00% 100 MWH 0.0307 3.7894 3.8201 3.49% 100 MWH 0.0307 3.7894 3.8201 3.49% 100 MWH 0.0307 3.7894 3.8201 3.49% 100 MWH 0.0307 3.7894 3.8201 3.49% | Available Capacity(MW) 29 MWH 9.73 0.36 10.09 2.05% 49.07% 50 MWH 13.18 0.36 13.54 2.04% 41.67% 50 MWH 3 0 3 2.00% 30.00% 75 MWH 3 0 3 2.00% 30.00% 150 MWH 3 0 3 2.00% 30.00% 150 MWH 3 0 3 2.00% 30.00% 225 MWH 3 0 3 2.00% 30.00% 100 MWH 0.0307 3.7894 3.8201 3.49% 14.63% | Available Capacity(MW) Unit F-Cost L-Cost L-Cost |

Table 9.3.9 ADJUSTED FIXED COST

| Type of Unit | Amount | Unit | F-Cost | L-Cost | Base Cost | Escalation | Tax Rate | Cost |
|--------------------------------|-------------|----------------|--------|-------------|-----------|------------|----------|-----------|
| type of Onk | Zillouiii [| Oille | 1 0001 | | | Rate | | (% x FIC) |
| Diesel-29 | % x FIC | % | 1.30% | 2.72% | 4.02% | 3.01% | 1.06% | 4.02% |
| Diesel-50 | % x FIC | / | 1.30% | 2.72% | 4.02% | 3.01% | 1.06% | 4.02% |
| GT-50 | % x FIC | % | 1.30% | 3.54% | 4.84% | 3.10% | 1.06% | 4.84% |
| GT-75 | % x FIC | - % | 1.30% | 3,54% | 4.84% | 3.10% | 1.22% | 4.84% |
| CCGT-150 | % x FIC | % | 1.30% | 1.85% | 3.15% | 2.88% | 1.22% | 3.15% |
| CCGT-130 | % x FIC | % | 1.30% | 1.85% | 3,15% | 2.88% | 0.89% | |
| Coal-100(1/2) | % x FIC | % | 1.30% | | ↓ | 2.92% | 0.89% | 3.34% |
| Coal-100(1/2) | % x FIC | / % | 1.30% | | 3.34% | 2.92% | 0.92% | 3.34% |
| | % x FIC | % | 1.30% | | <u> </u> | 2.92% | 0.92% | 3.34% |
| Coal-100(1/3) | % x FIC | % | 1.30% | | · | 2.92% | 0.92% | 3.34% |
| Coal-100(2/3) Coal-100(3/3) | % x FIC | % | 1.30% | | | | 0.92% | 3.34% |

9.4 Calculation and Evaluation of Overall Costs

(1) Calculated cumulative costs of individual plans

Concerning the three power supply plans (Cases I-1, II-1, and III-1) for base power demand and the three power supply plans (I-2, II-2, and III-3) for high power demand, the costs of investment and operation in terms of finance and economy were calculated. The calculation results are summarized in Tables 9.4.1 through 9.4.12. (See the Appendix for detailed calculation results of costs by year.)

- (2) Present values of total costs and selection of minimum investment cost case
- 1) The total costs by year in each of the cases were converted into present values using the discount rates described below. The results are shown in Table 9.4.13 and Figures 9.4.1 through 9.4.4. From the results, with the discount rate fixed at 12.5%, in the case of base demand, Scenario 1 is the minimum cost case in terms of both financial cost and economic cost, whereas in the case of high demand, Scenario 1 is the minimum cost case in terms of financial cost, but in terms of economic cost, there is minimal difference between Scenarios 1 and 3. In any case, Scenario 2 cannot be the minimum cost case.
- 2) In the case of base demand, Scenario 1 and Scenario 3 reverse in economic cost advantage with the discount rate of 11.43% as the border line. At a discount rate below 11.43%, Scenario 3 has the cost advantage, whereas at a higher discount rate, Scenario 1 is advantageous.
- 3) In the case of high demand, the advantages in terms of financial and economic costs shift from Scenario 3 to Scenario 1 at certain discount rates--4.86% for financial cost and 11.43% for economic cost.
- 4) In view of the current financial situation, the most reasonable discount rate is considered to be about 16% for investment by CEB (government agency) and about 21% for private investment (BOT, BOO, etc.).



(3) Sensitivity analysis by cost variation

The main cost items evaluated in the present study were investment cost, fuel cost, other variable costs, and fixed operating costs. Of those, other variable costs and fixed costs account for small proportions in terms of amount, and their variations do not significantly influence the total costs. With respect to the construction cost, the variation may safely be assumed to be about 20% as long as the rise in cost due to inflation is taken into account separately. The fuel costs, by contrast, can rise sharply. Therefore, in the present study, it was assumed that the current costs might rise nearly twofold. The analysis results are shown in Table 9.4.14.

According to the analysis results, if the fuel costs hike twofold, in both cases of base demand and high demand, Scenario 3 becomes the most advantageous in terms of both financial and economic costs. At a discount rate of 12.5%, the border line of fuel cost increase between Scenario 3 and Scenario 1 is as follows.

Financial cost

Economic cost

Base demand

High demand

It should be noted that in the present study, the rates of increase in primary energy cost obtained by a forecast model were previously taken into account. Namely, unexpected cost increases, as during the oil crises in the past, were considered.

(4) Conclusion

The results of the present study show that Scenario 1 is the most advantageous in terms of financial and economic costs in both cases of base demand and high demand.

| | 2009 | 25,065 | 153,837 | 13,507 | 20,809 | | 213,218 | | | 213,218 | 154,673 | 113,074 | 83,275 | 61,762 | 46,115 | 34,654 | 26,202 | 19,928 | 15,242 | 11,722 | 9,061 | 7,040 |
|------------|------|----------------|-----------|---------------------|------------|---|--------------|---|---------------|---------|---------|----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 2008 | 104,681 | 129,693 | 12,534 | 18,932 | | 265,840 | | | 265,840 | 197,667 | 148,030 | 111,614 | 84,705 | 64,683 | 49,687 | 38,385 | 29,816 | 23,280 | 18,268 | 14,405 | 11,410 |
| | 2007 | 54.552 | 105,549 | 11,561 | 17,055 | | 188,717 | | | 188,717 | 143,829 | 110,339 | 85,176 | 66,144 | 51,657 | 40,563 | 32,018 | 25,399 | 20,245 | 16,211 | 13,038 | 10,530 |
| | 2006 | 25,065 | 108,518 | 10,588 | 15,689 | | 159,859 | | | 159,859 | 124,881 | . 98,139 | 77,562 | 61,632 | 49,228 | 39,515 | 31,868 | 25,818 | 21,008 | 17,165 | 14,081 | 11,596 |
| Financial | 2005 | 104,681 | 84,374 | 9,615 | 13,811 | | 212,481 | | | 212,481 | 170,140 | 136,967 | 110,827 | 90,113 | 73,612 | 60,400 | 49,771 | 41,180 | 34,205 | 28.519 | 23,863 | 20,037 |
| | 2004 | 53,311 | 58,677 | 8,469 | 11,632 | | 132,088 | | | 132,088 | 108,411 | 89,403 | 74,062 | 61,620 | 51,481 | 43,180 | 36,355 | 30,720 | 26,048 | 22,161 | 18,914 | 16,193 |
| | 2003 | 23,937 | 59.982 | 7,365 | 10,058 | | 101,342 | | | 101,342 | 85,256 | 72,022 | 61,084 | 52,005 | 44,435 | 38,098 | 32,774 | 28,283 | 24,481 | 21,253 | 18,502 | 16,151 |
| | 2002 | 97,706 | 36,111 | 6,301 | 8,162 | | 148,280 | | | 148,280 | 127,861 | 110,649 | 96.079 | 83,700 | 73,142 | 64,105 | 56,345 | 49,659 | 43,880 | 38,871 | 34,516 | 30,720 |
| | 2001 | 49,764 | 13,432 | 5,275 | 6,406 | | 74,877 | | | 74,877 | 66,180 | 58,668 | 52,156 | 46,493 | 41,551 | 37,227 | 33,432 | 30,091 | 27,144 | 24,536 | 22,223 | 20,166 |
| TOTAL COST | 2000 | 19,442 | 8,724 | 3,446 | 4,051 | | 35,662 | | | 35,662 | 32,308 | 29,339 | 26,704 | 24,358 | 22,264 | 20,390 | 18,709 | 17,198 | 15,837 | 14,607 | 13,495 | 12,486 |
| TOTA | 1999 | 28.504 | 8,499 | 3,377 | 3,932 | | 44,312 | | | 44,312 | 41,148 | 38,278 | 35,669 | 33,292 | 31,122 | 29,136 | 27,315 | 25,643 | 24,105 | 22.688 | 21,379 | 20,169 |
| | 1998 | 18.574 | 4,140 | 1,654 | 1,865 | | 26,234 | | | 26.234 | 24.970 | 23,795 | 22,701 | 21.681 | 20.728 | 19,836 | 19,001 | 18.218 | 17,482 | 16.790 | 16,138 | 15,523 |
| | 1997 | 27 234 | 4.033 | 1,621 | 1,811 | | 34,699 | | | 34.699 | 33.853 | 33,047 | 32,278 | 31,544 | 30.844 | 30.173 | 29.531 | 28.916 | 28.326 | 27.759 | 27.215 | 26,691 |
| | 1996 | 17 748 | 0 | 0 | 0 | | 17,748 | م | | 17.748 | 17.748 | 17.748 | 17.748 | 17.748 | 17.748 | 17.748 | 17,748 | 17.748 | 17.748 | 17.748 | 17.748 | 17,748 |
| | 1995 | 26.024 | 0 | 0 | 0 | | 26,024 | 1 | Financial | 26.024 | 26.675 | 27.326 | 27.976 | 28.627 | 29 277 | 29.928 | 30.579 | 31 229 | 31.880 | 32.530 | 33.181 | 33,832 |
| CASE: [-1 | | NVESTMENT COST | FILE COST | OTHER VARIABLE COST | FIXED COST | | TOTAL COST | | PRESENT VALUE | 0.00% | 2050 | \$ 00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22 50% | 25,00% | 27.50% | 30.00% |
| | L | 1.7 | <u> </u> | 1 | 1,000 | i | <i>لـــا</i> | | | | | | | | | | | ก | 4. | 4 | | |

Base Case I-1

Financial

Ì

| | | | | ; | | | | | 3 | 0.00 | 9000 | 1000 | COOL | 2000 | 2024 |
|------------------------|---------|---------------------------------------|---------|---------|---------------|---------|------------------|---------|----------|---------|---------------------------------|---------|---------|---------|---------|
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 0707 | 2021 | 7707 | 5707 | F-70.7 |
| | | | | | | | | ╁ | | 000 | | | 127 079 | 103 575 | 14 671 |
| | | .07.70. | 220 20 | 1000 | 126.012 | 63.030 | 256.067 | | 261.396 | 1/3,322 | - | | 0/21/01 | | |
| INVESTMENT COST | 74.552 | 189,43 | 23,003 | 702'7/ | 1.0000 | 2000 | | 1000 | 200 | 000 000 | - | | 455 411 | 476.771 | 471.985 |
| | 070 021 | 175.013 | 1001 | 104 187 | 228 720 | 261.254 | 26.50 | 577.15 | 374.00.2 | 374,002 | + | - | | | |
| FUEL COST | 120,000 | ١ | 127,170 | 127 | | 0,00 | 01.0 | 56735 | 970.00 | 20 078 | | 33.361 | 35.250 | 38.073 | 37,043 |
| TOOL TICKER AND TO THE | 17 ARN | 15.452 | 7,77 | 17400 | 18.839 | 20,519 | 6//17 | 7/0.07 | 0/0,27 | 27.57 | t | | | | |
| CITER VARIABLE COST | | | T | | 200 | 002.00 | 07 67 | 3000 | 745 3K | 45 366 | 46.500 | 53.882 | 707.09 | 0/38 | 5 |
| EIVED COST | 22,156 | 24.033 | 25,911 | 27,257 | 29,838 | 34,333 | 27,0,00 | 40,047 | 2000 | 2000 | 22 | | | | |
| 1000 000 | | | | | | | | | | | | | | t | |
| | | | | | | | 1001 | A07 70A | 739 640 | K4K 574 | 295 600 632 633 667 632 667 | 697 562 | 688.846 | 686.008 | 592,695 |
| TOTAL | 242.056 | 242 056 319 180 266.558 313.820 | 266.558 | 313,826 | 326 413,489 | 3//14 | 3//, [4] 524,361 | 401,74 | 140,017 | 1 | 22.55 | | | 1 | |
| 10001 | 7.77 | | | | | | | | | | | | | | |

TOTAL COST

592,695 296,868 151,193 78,234 41,099 21,906 11,838 6,483 3,595 2,018 1,146 4,994 362,495 193,732 105,076 57,798 32,222 18,196 10,403 6,017 688,846 2,082 1,244 751 692,562 373,561 204,515 113,566 63,921 36,446 21,038 12,289 12,289 7,260 4,336 2,616 1,595 981 633,967 350,505 111,754 111,754 64,364 64,364 13,532 22,147 13,218 7,975 4,867 1,861 249,088 210,506 148,433 122,525 89,512 72,208 54,596 43,064 33,664 25,976 20,974 15,840 13,199 9,760 8,385 6,074 5,376 3,817 3,478 2,420 728,649 423,246 296,374 178,676 109,009 67,266 41,960 26,448 16,836 10,820 7,018 4,591 497,784 320,015 197,634 123,446 77,946 77,946 32,040 20,840 13,678 9,056 6,046 4,069 2759 524,381 235,912 149,247 95,443 61,666 40,235 26,500 17,611 11,805 7,978 5,435 377,141 171,813 112,489 74,370 49,627 33,412 22,687 15,531 10,716 413,489 265,115 7,449 5,215 3,677 136,921 91,779 62,089 42,374 29,163 20,232 14,145 313,826 206,245 6,963 5,047 83,802 88,011 40,490 28,486 20,192 14,418 10,366 7,503 179,560 4,006 220,383 153,531 107,872 76,409 54,544 39,225 28,410 20,717 171,310 122,255 87,942 63,741 46,535 34,209 25,315 14,126 10,646 8,068 6,148 18,853 2.50% 5.00% 7.50% 7.50% 11.50% 17.50% 20.00% 22.50% 22.50% 30.00% PRESENT VALUE

@ Discount Rate of:

CASE:

| | 2025 | TOTAL |
|---------------------|---------|-----------|
| INVESTMENT COST | 0 | 2,470,430 |
| FUEL COST | 493,345 | 6,091,428 |
| OTHER VARIABLE COST | 39,866 | 517,986 |
| FIXED COST | 75,365 | 833,828 |
| | | |

| | 608,576 9,913,673 | 7,388 6,073,183 | 7,851 3,876,218 | ,726 2,578,351 | ,364 1,786,513 | ,994 1,287,663 | 570 963,311 | ,665 745,845 | 595,689 | ,692 489,087 | 942 411,425 | 530 353,485 | |
|---------------|-------------------|-----------------|-----------------|----------------|----------------|----------------|-------------|--------------|-----------|--------------|-------------|-------------|--|
| ount Kate of: | 0.00% | 2.50% 29 | 5.00% 147 | 7.50% 74 | 10.00% 38 | 12.50% 19 | 15.00% 10 | 17.50% 5. | 20.00% 3. | 22.50% 1. | 25.00% | 27.50% | |

| | | 855 |
|----------|-------------|------|
| NT VALUE | nt Rate of: | 0000 |
| PRESE | @ Discour | • |

Table 9.4.2 BASE CASE I-1 (ECONOMIC)

CASE:

TOTAL COST

Economic

N)

| 2009 | 22,950 | 128,540 | 8,364 | 7,079 | | 166,933 | | | 166 933 | 150 | 171,037 | 88.528 | 65,198 | 48,355 | 36,104 | 27,131 | 20,514 | 15,602 | 11,934 | 9.177 | 7.094 | 5.512 | |
|------|--------|---------------|---------|-------------------|----------|---------|------------|---------------|-------------------|---------|---------|----------|---------|--------|---------|--------|--------|--------|--------|---------|--------|---------|---------|
| 2008 | 95,851 | 108,420 | 7,682 | 6,112 | | 218,066 | | | 218 066 | | 102,144 | 121,427 | 91,556 | 69,482 | 53,059 | 40,758 | 31,487 | 24,458 | 19,097 | 14,985 | 11,816 | 036.0 | |
| 2007 | 49,951 | 88,300 | 7,001 | 5,145 | | 150,397 | | | 150 307 | | 114,624 | 87,934 | 67,881 | 52,713 | 41.168 | 32,327 | 25,517 | 20,242 | 16.134 | 12,919 | 10,390 | 8 302 | 2 / 260 |
| 2006 | 22,950 | 90.774 | 6.320 | 6,015 | | 126,059 | | | 126 050 | 77777 | 98,477 | . 77,389 | 61,163 | 48.601 | 38.819 | 31.160 | 25.130 | 20.359 | 16.566 | 13 535 | 11.104 | 0 144 | |
| 2005 | 95.851 | 70.654 | 5.639 | 5.047 | | 177,192 | | | 177 100 | 7/11/2 | 141.883 | 114,219 | 92,420 | 75.147 | 61 386 | 50.369 | 41.505 | 34341 | 28 525 | 23.787 | 19 900 | 16.700 | 10,727 |
| 2004 | 48.814 | 49.231 | 4.859 | 3.983 | | 106.887 | | | 100 007 | 100,007 | 87,727 | 72,345 | 59.932 | 49 864 | 41.650 | 34 947 | 29 419 | 24 859 | 27 078 | 17.033 | 15 305 | 12 103 | COARCA |
| 2003 | 21.918 | 50.310 | 4 107 | 4.624 | | 80.959 | | | 020 00 | 60,00 | 68,108 | 57.536 | 48 799 | 41 545 | 36 408 | 30.436 | 281.90 | 20 504 | 10 558 | 16.078 | 14 781 | 1,000 | 14,702 |
| 2002 | 80 464 | 30.409 | 3 784 | 3,663 | | 126.920 | | | 000 | 120,920 | 109,443 | 94.710 | 82 239 | 71 643 | 70% 63 | 54 871 | 48 220 | 42 505 | 37 550 | 22 27 | 20.577 | 200.20 | 40,432 |
| 2001 | 45 566 | 11 501 | 2886 | 2775 | | 62.529 | | | 001.40 | 675.70 | 55,266 | 48 993 | \$55 EF | 308 82 | 20.00 | 21 000 | 27.018 | 25 130 | 735 00 | 100,400 | 10 500 | 00000 | 10,841 |
| 2000 | 17.802 | 07.7.7 | 1755 | 1.754 | | 28.781 | 10.60 | | 100 | 28, /81 | 26.074 | 23.678 | 21 551 | 10,659 | 070,61 | 27.700 | 000 | 13,022 | 13,000 | 12,701 | 10,00 | 10,031 | 10,0// |
| 1999 | 26 100 | 7777 | 000 | 302 | 22,44 | 36 800 | 20000 | | | 36,800 | 34.172 | 31 789 | 20,623 | 27,052 | 040.77 | 20.040 | 20,13/ | 23,200 | 06717 | 20.013 | 18,842 | 27,1/37 | 16,750 |
| 1998 | 17 000 | 2 545 | 2,7,5 | 200 | Ono | 20 203 | 202,22 | | | 22,203 | 21.133 | 20.130 | 10.713 | 15,213 | 18.549 | 1, 245 | 10,709 | 780.01 | 12,419 | 14,790 | 14,210 | | 13,138 |
| 1661 | 150 00 | 7 452 | 2.400 | 070 | ¥0/ | 30,000 | 20,000 | | | 30,000 | 29.269 | 20 573 | 21002 | 27,507 | 21,21,2 | /00'07 | 20,007 | 25.532 | 30.53 | 24,490 | 24,000 | 05057 | 23,077 |
| 1996 | 17.021 | 10,01 | ٥ | 5 | | 12.021 | 10,07 | | | 16.251 | 16.251 | 10.27 | 10,251 | 16,231 | 16,251 | 16,251 | 10,221 | 16,251 | 16,231 | 15,231 | 16,251 | 16,251 | 16,251 |
| 1995 | 000 | 23,829 | ٥ (| o | 2 | 000 00 | 77,073 | Economic | | 23.829 | SCF VC | 25.021 | 170.07 | 010.07 | 26,212 | 26,808 | 27,404 | 27,999 | 28,595 | 29,191 | 29,786 | 30,382 | 30,978 |
| | | VESTMENT COST | EL COST | HER VARIABLE COST | KED COST | Hood | TOTAL COST | PRESENT VALUE | Discount Rate of: | 2000 | 2005 | 2.3078 | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% | 30.00% |

Economic

CASE: 1-1

13,388 398,444 191,253 | 258,923 | 207,790 | 248,985 | 336,028 | 298,531 | 432,122 | 396,390 | 601,072 | 525,921 | 513,148 | 562,532 | 554,401 | 547,535 | 465,158 94,839 401,294 27,226 24,176 2023 126,339 382,242 24,815 21,004 2022 174,378 347,327 22,695 18,133 2021 149,627 328,275 20,285 14,961 2020 327,683 19,263 14,779 164,196 2019 239,347 327,683 19,263 14,779 2018 73,351 292,988 16,879 2017 189,509 218,646 14,154 2016 9,813 57,713 218,054 13,132 2015 9,631 124,539 190,943 2014 66,826 163,831 7,240 2013 22,950 166,305 10,407 8,127 2012 146,185 95,851 9,726 2011 49,951 126,066 9,045 6,192 2010 OTHER VARIABLE COST INVESTMENT COST TOTAL COST FIXED COST FUEL COST

PRESENT VALUE

@ Discount Rate of:

465,158 232,987 118,659 61,399 32,256 17,192 9,291 5,088 2,822 1,584 9,000 547,535 281,104 146,656 77,693 41,765 22,766 12,577 7,037 3,986 2,284 155,920 84,568 46,517 25,933 14,645 8,372 4,843 2,833 1,676 1,001 604 92,244 51,919 29,603 17,088 9,982 5,897 3,522 166,117 2,125 1,295 797 90,456 52,098 30,380 283,707 159,111 17,926 10,699 6,455 3,935 2,423 513,148 945 601,072 525,921 349,141 298,038 205,476 171,225 122,445 99,661 73,839 58,734 45,037 35,028 27,770 21,129 17,302 12,884 10,888 7,939 6,917 4,941 236,005 142,281 86,805 53,564 33,413 21,060 13,407 8,616 5,588 3,656 2,412 263,712 162,862 101,727 64,232 40,979 26,403 17,173 11,271 7,463 186,739 118,139 75,549 48,812 31,849 20,976 13,940 9,344 6,315 4,302 336,028 215,449 139,626 91,416 60,438 40,330 27,153 18,437 12,622 8,708 248,985 163,632 108,632 72,817 49,260 33,619 23,137 16,052 11,223 7,904 5,607 65,326 45,221 31,563 22,205 15,740 11,239 8,081 95,191 5,849 124,546 87,507 61,984 44,247 31,820 23,046 16,805 12,335 191,253 135,355 96,596 69,485 50,363 36,768 27,030 20,002 14,896 11,161 0.00%
2.50%
5.00%
7.50%
10.00%
15.00%
17.50%
22.50%
22.50%
22.50%
30.00%

| | · HUV |
|--|-------|

| | 2025 | TOTAL |
|---------------------|---------|-----------|
| INVESTMENT COST | 0 | 2,262,049 |
| FUEL COST | 417,496 | 5,103,348 |
| OTHER VARIABLE COST | | 342,289 |
| FIXED COST | 28,739 | 281,857 |

TOTAL COST 475,948 | 7,989,544

PRESENT VALUE

| 825 575 |
|---------|
| D CO C |
| ł |
| |

| | 7,989,544 | 4,902,461 | 3,135,200 | 2,090,443 | 1,452,573 | 1,050,424 | 788,741 | 613,141 | 491,781 | 405,539 | 342,643 | 295,672 | 259,827 | |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|---------|---------|---------|--|
| | 475,948 | 232,577 | 115,630 | 58,441 | 30,003 | 15,636 | 8,267 | 4,431 | 2,406 | 1,323 | 736 | 415 | 236 | |
| Kate of: | 0.00% | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% | 30.00% | |
| Count | | | | | | | | | | | | | | |

9 - 49

| <u> </u> |
|--|
| ⋖ |
| <u> </u> |
| Ž |
| ⋖ |
| Z |
| |
| |
| 1 |
| |
| <u>.,, , , , , , , , , , , , , , , , , , ,</u> |
| ď |
| CASE |
| ш |
| BASE |
| ⋖ |
| œ |
| ~~ |
| ഗ |
| 9.4.3 |
| |
| Table |
| Q. |
| (O |
| - |

TOTAL COST

| 1955 1956 1957 1998 1999 2000 2001 2002 2003 2004 2005 2005 2005 2005 2009 2000 2000 2000 2000 2001 2002 2003 2004 2005 | CASE: 11-1 | — | | | | TOTAL COST | LSOS | | | | لیا | Financial | | | | |
|--|-------------------|-----------|--------|--------|--------|------------|--------|----------|---------|----------|---------|-----------|---------|---------|---------|---------|
| TOOST 26,024 17,748 27,234 18,574 28,504 19,746 29,37 33,31 104,681 25,065 54,529 10,461 TOOST 0 4,033 4,140 8,500 8,725 13,433 28,965 45,309 77,918 9,613 11,629 12,034 15,144 O 0 1,621 1,624 3,377 3,446 5,275 6,105 11,632 15,811 15,880 12,034 15,131 15,887 18,932 CONST 0 0 1,811 1,885 3,932 4,051 6,113 1,632 15,811 15,889 17,058 11,632 15,811 15,889 17,058 16,670 15,1329 12,430 17,058 16,670 15,811 15,889 17,058 16,670 15,811 15,689 17,058 18,932 18,932 18,932 18,932 18,938 17,058 18,932 18,938 17,058 17,058 17,058 17,058 17,058 17,058 | | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2002 | 2008 | 5006 |
| CONTINE CONT | VESTMENT COST | 26.024 | 17,748 | 27.234 | 18.574 | 28.504 | 19,442 | 49,764 | 97.706 | 23,937 | 53,311 | 104,681 | 25,065 | 54,552 | 104,681 | 25,065 |
| COST | FI. COST | | 0 | 4.033 | 4,140 | 8.500 | 8,725 | 13,433 | 28,965 | 45,309 | 77.918 | 96,394 | 112,807 | 145,048 | 161,461 | 177,875 |
| COST 1,811 1,865 3,932 4,611 6,466 8,162 10,058 11,632 13,811 15,659 17,038 17,148 34,699 26,234 44,313 35,663 74,878 141,134 86,670 151,329 224,501 164,363 228,689 298,385 Rate of: 2,60% 2,60% 17,748 34,699 26,234 44,313 35,663 74,878 141,134 86,670 151,329 224,501 164,363 228,689 298,385 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,50% 2,51% 2,51% 2,51% 2,51% 2,41% 2,41% 2,41% 2,41% 2,41% 3,40% 2,21% 2,41% 3,41% 3,40% 3,40% 3,41% 3,40% 3,40% 3,40% 3,40% 3,40% 3,21% 3,40% 3,21% 3,40% 3,21% 3,40% 3,21% 3, | HER VARIABI E COS | | 0 | 1.621 | 1.654 | 3,377 | 3,446 | 5,275 | 6,301 | 7,365 | 8,469 | 9,615 | 10,803 | 12,034 | 13.311 | 14,634 |
| UE Financial 86,674 151,329 224,501 164,365 228,689 298,385 UE Financial Financial 86,670 151,329 224,501 164,365 228,689 298,385 OF 26,024 17,748 35,663 74,878 141,134 86,670 151,329 224,501 164,363 228,689 298,385 No 26,675 17,748 33,853 24,970 41,149 32,306 66,182 124,135 102,426 14,715 100,905 133,709 166,152 No 26,675 17,748 31,645 22,300 66,182 12,1169 72,421 124,324 124,324 124,324 124,324 124,325 102,426 14,715 100,905 133,709 166,152 102,426 14,715 100,905 133,709 166,152 102,426 14,715 100,905 133,709 166,152 102,426 14,715 100,905 133,709 166,152 102,426 14,715 100,905 133,709 | ED COST | | 0 | 1,811 | 1,865 | 3,932 | 4,051 | 6,406 | 8,162 | 10,058 | 11,632 | 13,811 | 15,689 | 17,055 | 18,932 | 20,809 |
| Financial Fina | EOCT 11 TOW | L 25 026 | 17 740 | 34 600 | 26.724 | 44 313 | 35 663 | <u> </u> | 141 134 | \vdash | 151.329 | 224.501 | 164.363 | 228 689 | 208 385 | 238 382 |
| VE Financial S60.024 17,748 34,699 26,234 44,313 35,663 74,878 141,134 86,670 151,329 224,501 164,363 228,689 298,385 20,000 26,675 17,748 33,833 24,970 41,149 32,309 66,182 121,699 72,912 174,715 100,905 174,248 221,866 105,316 61,595 102,426 144,715 100,905 174,248 174,88 103,217 125,2186 106,152 100,905 174,715 100,905 174,715 100,905 174,715 100,905 174,715 100,905 174,715 100,905 174,715 100,905 175,716 175,48 103,217 125,204 41,552 69,617 38,002 58,980 77,776 50,615 52,277 1748 30,173 19,002 27,316 18,716 32,582 49,470 63,817 40,628 49,155 55,770 29,228 17,748 29,531 19,002 27,316 18,176 32,602< | (OTAL COST | 470,024 | 1/1/40 | 7,0,1 | 407,00 | 5,7 | 22,000 | 1 | | 1 | | | | | | |
| 26,074 17,748 34,699 26,234 44,313 35,663 74,878 141,134 86,670 151,329 224,501 164,363 228,689 298,385 26,72 17,748 32,807 24,313 35,669 105,316 61,595 102,426 144,715 100,905 133,709 166,152 26,675 17,748 33,047 23,795 38,279 29,340 58,669 105,316 61,595 10,426 144,715 100,905 133,709 166,152 3% 27,276 17,748 32,279 29,340 52,157 91,449 52,241 84,851 117,096 79,748 103,217 125,278 0% 28,627 17,748 30,844 20,728 31,122 22,264 41,552 69,617 38,002 58,980 77,776 50,615 95,179 49,155 50,617 38,002 28,980 77,776 50,615 30,415 30,415 30,415 30,415 30,415 30,415 30,415 30,415 30,415 | PRESENT VALUE | Financial | _ | | | | | | | | | | | | | |
| 26.67.5 17.748 33.853 24.970 41,149 32.309 66,182 121,699 72,912 124,203 179,764 128,400 174,294 221,866 27,326 17,748 33,047 23,735 38,279 29,340 58,669 105,316 61,595 102,426 144,715 100,905 133,709 166,152 27,376 17,748 32,279 22,701 35,670 26,705 52,157 91,449 52,241 84,851 117,096 79,748 103,217 125,278 28,627 17,748 31,545 21,681 33,239 24,359 46,494 79,666 44,475 70,596 95,210 63,817 12,625 95,176 56,615 62,599 77,776 50,615 62,599 72,602 25,277 77,748 30,173 19,837 29,136 20,391 37,226 28,029 41,651 52,587 49,470 63,817 40,628 49,155 55,770 29,228 17,748 28,316 18,218 | Discount Rate of: | 26036 | 17 748 | 34 699 | 26.234 | 44.313 | 35.663 | 74.878 | 141.134 | 0/9'98 | 151,329 | 224,501 | 164,363 | 228,689 | 298,385 | 238,382 |
| 27,326 17,48 33,047 23,755 38,279 29,340 58,669 105,316 61,595 102,426 144,715 100,905 133,709 166,152 27,376 17,48 32,279 22,701 35,670 26,705 52,157 91,449 52,241 84,851 117,096 79,748 103,217 125,278 28,627 17,748 31,545 21,681 33,293 24,359 46,494 79,666 44,475 70,596 95,210 63,879 77,776 50,615 62,599 72,602 29,227 17,748 30,173 19,837 29,136 20,391 37,228 61,016 32,582 49,470 63,817 40,628 49,155 55,770 29,228 17,748 29,531 19,837 29,136 20,391 37,226 28,029 41,651 52,587 32,166 38,194 43,510 26,546 30,779 33,466 31,229 17,748 28,326 17,487 27,144 41,765 2 | 2 50% | 26,675 | 17.748 | 33.853 | 24.970 | 41.149 | 32,309 | 66,182 | 121,699 | 72,912 | 124,203 | 179,764 | 128,400 | 174,294 | 221,866 | 172,927 |
| 27.576 17.748 32.279 22.701 35,670 26,705 52,157 91,449 52,241 84,851 117,096 79,748 103,217 125,278 28,627 17,748 31,545 21,681 33,239 24,339 46,494 79,666 44,475 70,596 95,210 63,369 80,154 95,075 29,277 17,748 30,844 20,728 31,122 22,264 41,552 69,617 38,002 58,980 77,776 50,615 62,599 72,602 29,228 17,748 30,173 19,837 29,136 20,391 37,228 61,016 32,582 49,470 63,817 40,628 49,155 55,770 30,579 17,748 29,531 19,002 27,316 18,710 33,432 53,629 24,188 35,194 43,510 26,546 30,779 33,466 31,280 17,748 28,326 17,482 24,188 35,194 43,510 26,546 30,779 34,686 <tr< td=""><td>5.00%</td><td>27.326</td><td>17,748</td><td>33,047</td><td>23,795</td><td>38.279</td><td>29,340</td><td>58,669</td><td>105,316</td><td>61,595</td><td>102,426</td><td>144,715</td><td>100,905</td><td>133,709</td><td>166,152</td><td>126,419</td></tr<> | 5.00% | 27.326 | 17,748 | 33,047 | 23,795 | 38.279 | 29,340 | 58,669 | 105,316 | 61,595 | 102,426 | 144,715 | 100,905 | 133,709 | 166,152 | 126,419 |
| 28.627 17,748 31,545 21,681 33,293 24,359 46,494 79,666 44,475 70,596 95,210 63,369 80,154 95,075 29,277 17,748 30,844 20,728 31,122 22,264 41,552 69,617 38,002 58,980 77,776 50,615 62,599 72,602 29,528 17,748 30,173 19,837 29,136 20,391 37,228 61,016 32,582 49,470 63,817 40,628 49,155 55,770 30,579 17,748 29,531 19,002 27,316 18,710 33,432 53,629 24,188 35,194 43,510 26,546 30,779 33,466 31,229 17,48 28,326 17,482 24,106 15,837 27,144 41,765 20,937 29,842 36,140 21,599 24,533 26,130 32,530 17,748 27,760 16,790 22,688 14,608 24,536 36,997 18,176 25,389 30,132 <td>7.50%</td> <td>27.976</td> <td>17.748</td> <td>32.279</td> <td>22,701</td> <td>35,670</td> <td>26,705</td> <td>52,157</td> <td>91,449</td> <td>52,241</td> <td>84,851</td> <td>117,096</td> <td>79,748</td> <td>103,217</td> <td>125,278</td> <td>93,103</td> | 7.50% | 27.976 | 17.748 | 32.279 | 22,701 | 35,670 | 26,705 | 52,157 | 91,449 | 52,241 | 84,851 | 117,096 | 79,748 | 103,217 | 125,278 | 93,103 |
| 29,277 17,48 30,844 20,728 31,122 22,264 41,552 69,617 38,002 58,980 77,776 50,615 62,599 72,602 29,928 17,748 30,173 19,837 29,136 20,391 37,228 61,016 32,582 49,470 63,817 40,628 49,155 55,770 30,579 17,748 29,531 19,002 27,316 18,710 33,432 53,629 28,029 41,651 52,587 32,766 38,800 43,085 31,229 17,748 28,326 17,482 24,186 35,194 43,510 26,546 30,779 33,466 31,280 17,748 28,326 17,482 24,186 24,539 36,197 25,842 36,140 21,599 24,533 26,130 32,530 17,748 27,760 16,790 22,688 14,608 24,536 36,997 18,176 25,389 30,132 17,484 15,799 16,188 32,283 30,132 11,478 <td>10.00%</td> <td>28.627</td> <td>17.748</td> <td>31,545</td> <td>21,681</td> <td>33,293</td> <td>24,359</td> <td>46,494</td> <td>79,666</td> <td>44,475</td> <td>70,596</td> <td>95,210</td> <td>63,369</td> <td>80,154</td> <td>95,075</td> <td>69,051</td> | 10.00% | 28.627 | 17.748 | 31,545 | 21,681 | 33,293 | 24,359 | 46,494 | 79,666 | 44,475 | 70,596 | 95,210 | 63,369 | 80,154 | 95,075 | 69,051 |
| 29,528 17,748 30,173 19,837 29,136 20,391 37,228 61,016 32,582 49,470 63,817 40,628 49,155 55,770 30,579 17,748 29,531 19,002 27,316 18,710 33,432 53,629 28,029 41,651 52,587 32,766 38,800 43,085 31,229 17,748 28,326 17,482 24,186 35,097 29,842 36,140 21,599 24,533 26,130 32,530 17,748 28,326 17,482 24,106 15,837 27,144 41,765 20,937 29,842 36,140 21,599 24,533 26,130 32,530 17,748 27,760 16,790 22,688 14,608 24,536 36,997 18,176 25,389 30,132 17,648 19,644 20,505 33,181 17,748 27,215 16,138 21,380 13,495 22,223 32,823 21,669 25,213 14,478 15,799 16,168 | 12 50% | 29.277 | 17.748 | 30,844 | 20,728 | 31,122 | 22,264 | 41,552 | 69,617 | 38,002 | 58,980 | 77,776 | 50,615 | 62,599 | 72,602 | 51,557 |
| 30,579 17,48 29,531 19,002 27,316 18,710 33,432 53,629 41,651 52,587 32,766 38,800 43,085 31,229 17,748 28,316 18,218 25,644 17,199 30,092 47,265 24,188 35,194 43,510 26,546 30,779 33,466 31,229 17,748 28,326 17,482 24,106 15,837 27,144 41,765 20,937 29,842 36,140 21,599 24,533 26,130 32,530 17,748 27,760 16,790 22,688 14,608 24,536 36,997 18,176 25,389 30,132 17,648 19,644 20,505 33,181 17,748 27,215 16,138 21,380 13,495 22,223 32,853 15,669 25,213 14,478 15,799 16,168 33,832 17,748 26,997 13,812 18,551 21,170 11,923 12,760 12,807 | 15.00% | 29,928 | 17.748 | 30,173 | 19,837 | 29.136 | 20,391 | 37,228 | 61.016 | 32,582 | 49,470 | 63,817 | 40,628 | 49,155 | 55,770 | 38,744 |
| 31,229 17,48 28,916 18,218 25,644 17,199 30,092 47,265 24,188 35,194 43,510 26,546 30,779 33,466 31,880 17,748 28,326 17,482 24,106 15,837 27,144 41,765 20,937 29,842 36,140 21,599 24,533 26,130 32,530 17,748 27,760 16,790 22,688 14,608 24,536 36,997 18,176 25,389 30,132 17,648 19,644 20,505 33,181 17,748 27,215 16,138 21,380 13,495 22,223 32,853 15,669 25,213 14,478 15,799 16,168 33,832 17,748 26,992 15,523 20,170 12,487 20,167 29,240 13,812 18,551 21,170 11,923 12,760 12,807 | 17.50% | 30.579 | 17.748 | 29.531 | 19,002 | 27,316 | 18,710 | 33,432 | 53,629 | 28,029 | 41,651 | 52,587 | 32,766 | 38,800 | 43,085 | 29,294 |
| 31.880 17.748 28.326 17.482 24.106 15.837 27.144 41,765 20,937 29.842 36,140 21,599 24,533 26,130 32.530 17.748 27.716 16.790 22.688 14,608 24,536 36,997 18,176 25,389 30,132 17,648 19,644 20,505 33.181 17,748 27,215 16,138 21,380 13,495 22,223 32,853 15,692 25,213 14,478 15,799 16,168 33,832 17,748 26,692 15,523 20,170 12,487 20,167 29,240 13,812 18,551 21,170 11,923 12,760 12,897 | 20 00% | 31,229 | 17.748 | 28.916 | 18,218 | 25.644 | 17.199 | 30,092 | 47,265 | 24,188 | 35,194 | 43.510 | 26,546 | 30,779 | 33,466 | 22,280 |
| 32.530 17.748 27.760 16.780 22.688 14.608 24.536 36.997 18.176 25.389 30,132 17.648 19.644 20.505 33.181 17.748 27.215 16.138 21.380 13.495 22.223 32.853 15.823 21.669 25.213 14.478 15.799 16.168 33.832 17.748 26.692 15.523 20,170 12,487 20,167 29,240 13.812 18,551 21,170 11,923 12,760 12,807 | 22.50% | 31.880 | 17.748 | 28.326 | 17,482 | 24.106 | 15,837 | 27,144 | 41,765 | 20,937 | 29,842 | 36 140 | 21,599 | 24,533 | 26,130 | 17,041 |
| 33,181 17,748 27,215 16,138 21,380 13,495 22,223 32,853 15,823 21,669 25,213 14,478 15,799 16,168 33,832 17,748 26,692 15,523 20,170 12,487 20,167 29,240 13,812 18,551 21,170 11,923 12,760 12,807 | 25.00% | 32.530 | 17.748 | 27,760 | 16,790 | 22,688 | 14,608 | 24,536 | 36,997 | 18,176 | 25,389 | 30,132 | 17,648 | 19,644 | 20,505 | 13,105 |
| 33,832 17,748 26,692 15,523 20,170 12,487 20,167 29,240 13,812 18,551 21,170 11,923 12,760 12,807 | 27.50% | 33,181 | 17.748 | 27,215 | 16,138 | 21.380 | 13,495 | 22,223 | 32,853 | 15,823 | 21,669 | 25.213 | 14,478 | 15,799 | 16,168 | 10,131 |
| | 30.00% | 33,832 | 17,748 | 26,692 | 15,523 | 20,170 | 12,487 | 20,167 | 29,240 | 13,812 | 18,551 | 21,170 | 11,923 | 12,760 | 12,807 | 7,871 |

| 1-1 |
|------|
| Case |
| Base |

Financial

200

Park.

| | | | | | | ,_ | - | | | · | | _ | · | · | т | | _ | _ | -7- | | | _ _T | 1 |
|-----------|------|---------|-----------------|-----------|---------------------|----------|------------|---|---------------|---------------------|---------|---------|---------|------------|---------|--------|--------|----------|--------|--------|------------|----------------|---------------|
| | 2024 | 14,621 | 538,786 | 60,621 | 62,466 | 676 499 | 57.5 | | | 676,495 | 338,841 | 172 570 | 200 205 | 44.010 | 25.003 | 13 515 | 7.450 | | 1.10 | 4304 | 505 | 752 | 436 |
| | 2023 | 103,575 | 571,052 | 59,422 | 61,009 | 705 050 | 750027 | | | 795,059 | 408.183 | 212 055 | 112 836 | 2000 | 33058 | 18.262 | 10.215 | 2000 | 2,700 | 3,317 | 1.922 | 1,126 | 299 |
| | 2022 | 137,978 | 549,692 | 52,976 | 53,628 | 704 274 | 12471 | | | 794,274 | 417.974 | 223 382 | 301 157 | 161.131 | 23.55 | 10000 | 11 006 | 11,732 | 0,938 | 4,059 | 2,401 | 1,435 | 866 |
| | 2021 | 206,352 | 542,703 | 51,092 | 52,913 | 052 061 | 400,550 | | | 853.061 | 460 133 | 351 011 | 130,007 | 133,004 | 45/8/ | 26026 | 15.12. | 15,157 | 8,942 | 5,340 | 3,223 | 1,964 | 1,209 |
| | 2020 | 261,396 | 470,271 | 46.020 | 47,632 | 016 300 | 1 212,520 | | | 825.319 | 456 200 | 200 220 | 202,202 | 145,465 | 83,791 | 48,861 | 750,02 | 17,707 | 10,382 | 6,329 | 3,897 | 2,423 | 1,520 |
| | 2019 | 80.108 | 474,725 | 43.054 | 43.858 | <u> </u> | 041,/45 | | | 641 745 | 363 675 | 20000 | 200,234 | 121,010 | 71,669 | 42,742 | 78/57 | 15,721 | 6,687 | 6,029 | 3,788 | 2,402 | 1,537 |
| | 2018 | 177,479 | 402 293 | 38 301 | 41,218 | 10000 | 167,60 | | | 196 959 | 202 050 | 302,737 | 675,572 | 134,305 | 80,991 | 49,399 | 30,460 | 18,978 | 11,942 | 7,587 | 4,865 | 3.147 | 2,053 |
| | 2017 | 63 030 | 406 747 | 35 570 | 60,339 | 70, 23, | 262,086 | | | 484 545 | 226 901 | 100,000 | 203,049 | 123,879 | 76,441 | 47,684 | 30,055 | 19,133 | 12,296 | 7,975 | 5.218 | 3.442 | 2,290 |
| | 2016 | 165 500 | 354 117 | 31 724 | 48,526 | | 299,867 | | | 739 003 | 277,007 | 200,002 | 226,084 | 141,217 | 89,166 | 56,886 | 36,652 | 23,840 | 15,647 | 10,359 | 6.916 | 4.654 | 3,156 |
| Financial | 2015 | 77 000 | 217 001 | 20,201 | 37,653 | | 457,739 | | | 022 234 | 407,739 | 230,323 | 181,143 | 115,840 | 74,844 | 48,834 | 32,163 | 21,375 | 14,328 | 9.683 | 265.9 | 4 578 | 3.131 |
| LJ | 2014 | 15 504 | 205 547 | 2460242 | 30,842 | | 367,658 | | | 027 020 | 307,030 | 235,730 | 152,770 | 100,021 | 66,127 | 44,126 | 29,709 | 20,173 | 13,810 | 9.528 | 6623 | 4 637 | 3,269 |
| | 2013 | 707 00 | 12,4% | 201,572 | 27,257 | | 402,348 | | | 010 001 | 402,348 | 264,421 | 175,543 | 117,668 | 79,602 | 54,326 | 37,389 | 25,939 | 18.135 | 12 773 | 050.0 | 6.470 | 4.651 |
| | 2012 | 000 | 26,750 | 247,747 | 25.911 | | 443,539 | | | | 443,539 | 298,779 | 203,190 | 139,443 | 96,527 | 67,374 | 47,399 | 33.599 | 23.990 | 17 249 | 12 ARK | 200 | 5,027 |
| | 2011 | | 188,558 | 220,528 | 24.033 | | 456,584 | | | | 456,584 | 315,255 | 219,624 | 154,310 | 109,302 | 78,025 | 56,112 | 40.640 | 20,635 | 21 751 | 15.05 | 750 | 0000 |
| | 2010 | | 71,631 | 210,115 | 16,004 | | 319,905 | | | | 319,905 | 226,406 | 161,574 | 116.226 | 84.241 | 61,502 | 45.212 | 33.457 | 74916 | 18 660 | 14.070 | 14,070 | 10,003 |
| 11-1 | | | COST | | OTHER VARIABLE COST | | COST | | VALUE | ate of: | 0.00% | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17 50% | 200000 | 20 500 | 25.00% | 22.0076 | 200000 |
| CASE: | | | INVESTMENT COST | FUEL COST | OTHER VARIA | 1000 000 | TOTAL COST | | PRESENT VALUE | @ Discount Rate of: | | L | L | L . | ــل | J | 1 | <u>.</u> | 1. | 1 | | . J., | _4. |
| | | | Z | 딥 | <u>ව</u> ් | | |] | | (| | | | | | | | | | ſ |) _ | 51 | |

AR ARE

| | TOTAL | 2,470,430 | 7,324,351 | 711,056 | 842,440 | 11,348,277 | | | 11,348,277 | 6,937,266 | 4,412,713 | 2,920,919 | 2,010,898 | 1,438,038 | 1,066,157 | 817,454 | 646,336 | 525,401 | 437,771 | 372,796 | 323,594 |
|------------|-------|--------------|-----------|-------------------|---------|------------|---------------|-------------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|---------|---------|
| | 2025 | 0 | 560,146 | 67,762 | 68,786 | 696,694 | | | 696,694 | 340,447 | 169,259 | 85,545 | 43,919 | 22.889 | 12,101 | 6,486 | 3,522 | 1,937 | 1,078 | 607 | 346 |
| CASE: II-1 | | ESTMENT COST | T COST | HER VARIABLE COST | ED COST | TOTAL COST | PRESENT VALUE | Discount Rate of: | | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% | 30.00% |

Table 9.4.4 BASE CASE II-1 (ECONOMIC)

TOTAL COST

| | | | | | 7 | Ę | 2 | | 1 | 6 | 4 | | _, | | C 3 | | <u></u> | _ | [_ | Ţ, | Ţ | Ţ | 7 | |
|-------------|------|---------------------|----------------|-----------|---------------------|------------|------------|---|---------------|---------------------|---------|---------|----------|--------|------------|--------|---------|---------|--------|--------|---------|--------|--------|---|
| | 2002 | 23,109 | 148,571 | 9,060 | 7,129 | 100 | 18/,869 | | | 187,869 | 136,284 | 99,631 | 73.374 | 54,419 | 40,632 | 30,534 | 23.087 | 17.559 | 12 420 | | 877 | | 6,203 | |
| | 2008 | 96,516 | 134,893 | 8,158 | 6,155 | | 245,722 | | • | 245,722 | 182,708 | 136,827 | 103,167 | 78,294 | 59,788 | 45,927 | 35.480 | 27.559 | 21 518 | 25,575 | 10,880 | 13,314 | 10,547 | |
| - | 2007 | 50,297 | 121,216 | 7,287 | 5,181 | | 183,981 | | | 183,981 | 140,220 | 107,570 | 83,038 | 484 | 50.361 | 39.545 | 31.214 | 24 762 | 10 737 | 12,72 | 15,804 | 12,710 | 10,266 | |
| | 2006 | 23,109 | 94,349 | 6,448 | 6,056 | | 129,962 | | | 129,962 | 101.526 | 79.786 | . 63.057 | 50.106 | 40.021 | 32,125 | 25.908 | 20,000 | 020 22 | 1/,0/3 | 13,955 | 11,448 | 9,427 | |
| Economic | 2005 | 96,516 | 80,671 | 5,639 | 5,082 | | 187,908 | | | 187.908 | 150,463 | 121 127 | 98,010 | 79,691 | 65.099 | 53.415 | 44 015 | 36.418 | 2000 | 30,230 | 25,221 | 21,103 | 17,720 | |
| | 2004 | 49,152 | 65,265 | 4,859 | 4,011 | | 123,288 | | | 123 288 | 101 188 | 83 446 | 60.128 | 57,515 | 48.051 | 40 303 | 23 033 | 25,00 | 2,5 | 24,515 | 20,684 | 17,654 | 15,114 | |
| | 2003 | 22,070 | 38,083 | 4,107 | 4,656 | | 68.917 | | | 68.917 | 57.077 | 48 978 | 41 540 | 35 365 | 30 217 | 25 908 | 1000 | 10 223 | 15,200 | 16,048 | 14,453 | 12,582 | 10,983 | |
| | 2002 | 90,085 | 24,454 | 3.384 | 3,689 | | 121,611 | | | 121611 | 104 865 | 97.748 | 78,700 | 68 646 | 50 087 | 35.50 | 2,23, | 40 707 | 40,727 | 35,988 | 31,880 | 28,308 | 25,195 | |
| | 2001 | 45.882 | 11.503 | 2.686 | 2,794 | | 62,865 | | | 598 69 | 55 564 | 40.056 | 43 780 | 20 024 | 24.986 | 21 255 | 020 00 | 600,007 | 407.07 | 22,789 | 20,600 | 18,658 | 16,931 | |
| TOTAL COST | 2000 | 17.926 | 7.471 | 1.755 | 1,767 | | 28,918 | | | 28 018 | 36 1 26 | 22 701 | 31,654 | 10.751 | 12,771 | 10,000 | 10,23 | 17,1,51 | 13,940 | 12,842 | 11,845 | 10,943 | 10,125 | |
| TOTAI | 1999 | 26.281 | 7.778 | 1 720 | 1,715 | | 36,994 | | | 26 904 | 34 257 | 27.022 | 20,727 | 27.704 | 75.000 | 202,02 | 24,324 | 470,77 | 21,408 | 20,124 | 18,941 | 17.848 | 16,838 | |
| | 1998 | 17 126 | 3 545 | 843 | 813 | | 22,327 | | | 755 50 | 21.351 | 107.17 | 20,231 | 12,520 | 10,432 | 14.04 | 700'01 | 7/1'97 | cuc-ci | 14.878 | 14.289 | 13.734 | 13.211 | |
| | 1997 | 25 110 | 2.454 | 500 | 06/ | | 30.179 | | | 02.4.00 | 20,17 | 201.62 | 77,000 | 28,074 | 26,433 | 070'07 | 20,243 | 45,684 | 25,149 | 24,636 | 24,143 | 23.670 | 23.215 | |
| | 1996 | 16 364 | | | | | 16.364 | | | 17671 | 10,504 | 407.01 | 10,501 | 10,304 | 10,304 | 10,304 | 16,364 | 16,364 | 16,364 | 16,364 | 16364 | 16364 | 16364 | |
| | 1995 | 22 004 | 22,27 | 5 | | | 23,994 | | Economic | ,00 | 45,594 | 74,554 | 25.124 | 25,794 | 26,394 | 26,934 | 27.594 | 28,193 | 28,793 | 29.393 | 20 003 | 10 503 | 31,193 | |
| CASE: [11-1 | | TOO Tiens strong in | NVESTMENT COST | FUEL COST | OTHEK VAKIABLE COST | 1000 000 | TOTAL COST | | PRESENT VALUE | @ Discount Rate of: | 0.00% | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25 009% | 27.50% | 30 00% | , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| | L_ | 15 | <u>-11</u> | -19 | يارب | <u>-</u>] | L | ز | | | | | | | | | | | | 9 | _ : | 53 | | |

| | 2024 | 13,481 | 454,112 | 45,230 | 23,654 |
|----------|------|-----------------|-----------|---------------------|--------------|
| | 2023 | Н | 479,861 | | 21,794 |
| | 2022 | 127,216 | 460,810 | 37,610 | 18,600 |
| | 2021 | 190,257 | 455,100 | 35,756 | 18,444 |
| | 2020 | 241,007 | 394,740 | 32,185 | 16,036 |
| | 2019 | 73,860 | 398,451 | 30,090 | 14,648 |
| | 2018 | 163,636 | 338,091 | 26,745 | 13,444 |
| | 2017 | 58,114 | 341,803 | 24,816 | 22,251 |
| | 2016 | 152,591 | 297,945 | 22,108 | 16,747 |
| Economic | 2015 | 67,289 | 267,765 | 20,328 | 11,788 |
| | 2014 | 14.387 | 248,713 | 16,550 | 8,841 |
| | 2013 | 73,293 | 229,661 | 13,006 | 7.290 |
| | 2012 | 143,641 | 202,794 | 11.967 | 8,183 |
| | 2011 | 173,888 | • | ! | 7,209 |
| | 2010 | 66,043 | 175,438 | ı | 6,235 |
| CASE: [| | INVESTMENT COST | FUEL COST | OTHER VARIABLE COST | FIXED COST . |

288.491 | 367.170 | 489,390 | 446,984 | 541,916 | 517,049 | 683,968 | 699,557 | 644,235 | 640,112 | 536,477 PRESENT VALUE TOTAL COST

| 00, 702 | 550,477 | 268,709 | 136,852 | 70,813 | 37,201 | 19,828 | 10,715 | 5,868 | 3,254 | 1,827 | 1,038 | 596 | 346 |
|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| | 040,112 | 328,634 | 171,453 | 90,830 | 48,826 | 26,616 | 14,703 | 8,227 | 4,660 | 2,670 | 1,548 | 200 | 623 |
| | \$4,25 | 339,019 | 181,185 | 98.271 | 54,055 | 30,136 | 17,018 | 9,729 | 5,628 | 3,292 | 1,947 | 1,164 | 202 |
| 220 000 | /50,660 | 377,334 | 206,581 | 114,713 | 64,566 | 36,814 | 21,251 | 12,413 | 7,333 | 4.379 | 2,643 | 1,611 | ğ |
| 0,000 | 505,500 | 378,149 | 212,076 | 120,568 | 69,440 | 40,493 | 23.894 | 14,260 | 8,604 | 5,245 | 3,230 | 2,008 | 260 |
| 0,0 | 517,049 | 293,010 | 168,336 | 97,980 | 57,743 | 34,437 | 20,772 | 12,667 | 7,805 | 4,857 | 3,052 | 1,936 | 1 238 |
| , , | 541,916 | _ | 185,254 | | | | | ~~~ | 9,816 | | | _ | |
| | 446,984 | 266,128 | 160,441 | 97,885 | 60,401 | 37,678 | 23,749 | 15,118 | 9,716 | 6,301 | 4,123 | 2,720 | 1 200 |
| | 489,390 | 298,661 | 184,446 | 115,209 | 72,745 | 46,409 | 29,902 | 19,449 | 12,765 | 8,451 | 5,642 | 3,797 | 2575 |
| | 367,170 | 229,675 | 145,302 | 92,919 | 60,035 | 39,171 | 25,799 | 17,145 | 11,493 | 7,768 | 5,291 | 3,632 | 7517 |
| | 288,491 | 184,970 | 119.874 | 78,484 | 51,888 | 34,625 | 23,312 | 15,829 | 10,836 | 7,476 | 5,197 | 3,639 | 3736 |
| | 323,251 | 212,439 | 141.033 | 94,536 | 63,953 | 43,646 | 30,038 | 20,840 | 14,570 | 10,262 | 7,279 | 5,198 | 1000 |
| | 366,586 | 246,941 | 167.937 | 115,250 | 79,780 | 55,685 | 39,175 | 27,770 | 19.828 | 14,256 | 10,318 | 7,516 | 5000 |
| | 381,176 | 263,189 | 183,352 | 128,825 | 91,251 | 65,139 | 46,844 | 33,928 | 24,740 | 18,159 | 13,411 | 9,965 | 1 4 4 3 |
| | 257,712 | 182,389 | 130.162 | 93,630 | 67,864 | 49.545 | 36.422 | 26,953 | 20,072 | 15,039 | 11,334 | 8,590 | 2127 |
| | 0.00% | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20,00% | 22.50% | 25.00% | 27.50% | 20.00 |



| - |
|------|
| CASE |

| 2025 TOTAL | 0 2,277,737 | 473,164 6,148,316 | 51,196 488,278 | 26,388 291,389 |
|------------|-----------------|-------------------|----------------|----------------|
| | INVESTMENT COST | ŀ | LABLE COST | FIXED COST |

| PRESENT VALUE | @ Discount Rate of: |
|---------------|---------------------|

| = | Nate of | | |
|---|---------|---------|-----------|
| | 0.00% | 550,748 | 9,205,719 |
| | 2.50% | 269,129 | 5,636,154 |
| | 5.00% | 133,802 | 3,591,754 |
| - | 7.50% | 67,625 | 2,382,816 |
| | 10.00% | 34,719 | 1,644,784 |
| | 12.50% | 18,094 | 1,179,820 |
| | 15.00% | 995'6 | 877,726 |
| | 17.50% | 5,127 | 675,514 |
| | 20.00% | 2,784 | 536,254 |
| | 22.50% | 1,531 | 437,741 |
| | 25.00% | 852 | 366,289 |
| | 27.50% | 480 | 313,259 |
| | 30.00% | 273 | 273,066 |
| | | | |

9 - 55

| • | 2009 | 25,065 | 114,625 | 34,021 | 37,687 | 211,398 | |
|-------------|------|-----------------|-----------|---------------------|------------|---|--|
| | 2008 | 104,681 | 90,481 | 33,048 | 35,809 | 106,373 124,842 144,291 164,696 186,234 150,393 186,896 264,020 211,398 | |
| | 2007 | 54,552 | 66,337 | 32,075 | 33,932 | 186,896 | |
| | 2006 | 35,631 | 57,767 | 27,683 | 29,313 | 150,393 | |
| Financial | 2005 | 89,077 | 49,196 | 23,291 | 24,671 | 186,234 | |
| | 2004 | 87,050 | 36,578 | 18,525 | 19,544 | 164,696 | |
| | 2003 | 85,072 | 30,423 | 13,937 | 14,860 | 144,291 | |
| TOTAL COST | 2002 | 83,142 | 21,713 | 9,522 | 10,464 | 124,842 | |
| Al | 2001 | 81,258 | 13,433 | 5,275 | 6,406 | 106,373 | |
| | 2000 | 67,094 | 8,725 | 3,446 | 4.051 | 83,315 | |
| | 1999 | 28.504 | 8.500 | 3.377 | 3,932 | 44.313 83.315 | |
| | 1998 | 18.574 | | 1,654 | 1.865 | 26.234 | |
| | 1997 | 27.234 | 4.033 | 1.621 | 1.811 | 34.699 | |
| | 1996 | 17,748 | 0 | 0 | 0 | 17.748 | |
| | 1995 | 26.024 | C | G | 0 | 26.024 | |
| CASE: [11-1 | | INVESTMENT COST | FIRE COST | OTHER VARIABLE COST | FIXED COST | TOTAL COST | |

| ı | | | | | | | | 1 | | | | | |
|---------------------------------|---------|---------|----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 211,398 | 153,352 | 112,109 | 82,564 | 61.234 | 45,721 | 34,358 | 25,978 | 19,758 | 15,112 | 11,622 | 8,984 | 6,980 |
| | 264,020 | 196,313 | 147,016 | 110,850 | 84,125 | 64,240 | 49,347 | 38,123 | 29,612 | 23,121 | 18,143 | 14,306 | 11,332 |
| | 186,896 | 142,442 | 109,274 | 84,354 | 65,506 | 51,159 | 40,172 | 31,709 | 25,154 | 20,049 | 16,054 | 12,912 | 10,429 |
| : | 150,393 | 117,487 | . 92,328 | 72,970 | 57,983 | 46,313 | 37,175 | 29,981 | 24,289 | 19,764 | 16,148 | 13,247 | 10,909 |
| | 186,234 | 149,123 | 120,048 | 97,137 | 78,982 | 64,519 | 52,939 | 43,623 | 36,093 | 29,980 | 24,996 | 20,916 | 17.562 |
| | 164,696 | 135,174 | 111,473 | 92,345 | 76,832 | 64,189 | 53,839 | 45,329 | 38,303 | 32,478 | 27,631 | 23,583 | 20,190 |
| | 144,291 | 121,387 | 102,545 | 86,972 | 74,044 | 63,266 | 54,244 | 46,663 | 40,269 | 34,857 | 30,260 | 26,343 | 22,995 |
| | 124,842 | 107,651 | 93,159 | 80,893 | 70,470 | 61,581 | 53,972 | 47,439 | 41,809 | 36,944 | 32,726 | 29,060 | 25,864 |
| | 106,373 | 94,018 | 83,346 | 74,095 | 66,049 | 620'65 | 52,886 | 47,494 | 42.749 | 195,86 | 34,856 | 31,570 | 28,649 |
| | 83,315 | 75,480 | 68,544 | 62,387 | 56,906 | 52,013 | 47,636 | 43,709 | 40,179 | 36,998 | 34,126 | 31,527 | 29,171 |
| | 44,313 | 41,149 | 38,279 | 35,670 | 33,293 | 31,122 | 29,136 | 27,316 | 25,644 | 24,106 | 22,688 | 21,380 | 20,170 |
| | 26,234 | 24,970 | 23,795 | 22,701 | 21,681 | 20.728 | 19,837 | 19,002 | 18,218 | 17,482 | 16,790 | 16,138 | 15,523 |
| | 34,699 | 33,853 | 33,047 | 32.279 | 31,545 | 30,844 | 30,173 | 29,531 | 28,916 | 28,326 | 27,760 | 27,215 | 26,692 |
| | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17.748 | 17.748 | 17.748 | 17.748 | 17,748 |
| Financial | 26,024 | 26,675 | 27.326 | 27.976 | 28,627 | 29.277 | 29.928 | 30.579 | 31,229 | 31.880 | 32.530 | 33.181 | 33,832 |
| PRESENT VALUE Discount Rate of: | 0.00% | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% | 30.00% |
| PRESENT VAL |) | | | 7 | | | | - | - | -t-wa | | | |

The state of the s

寶

| | | • | |
|--|--|---|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Financial

CASE: [

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------|---------|----------|---------|----------|---------|---------|---------|---------|------------|---------|---------|---------|---------|---------|-------------|
| | | .07.70 | 270 30 | 000 000 | 126 012 | 63.030 | 706 967 | 80 108 | 261 396 | 179.322 | 163.411 | 190,441 | 137,978 | 103,575 | 14,621 |
| INVESTMENT COST | 24,552 | 104,681 | 200.62 | 12,702 | 100 500 | 2000 | 222 252 | 311964 | 353 597 | 353,597 | 312,674 | 334,033 | 416,199 | 437,559 | 478,091 |
| FUEL COST | 1 | 135,800 | 109,944 | 27.07.7 | 200,202 | 40.033 | 47 703 | 46 185 | 40 501 | 49 591 | 47,645 | 50.469 | 55,764 | 58,587 | 60,476 |
| OTHER VARIABLE COST | 34,994 | 35,967 | 192.08 | \$1.57.5 | 27272 | 2000 | 26,23 | 100 | 1100 | 75077 | 808 77 | 68 690 | 40 387 | 76.768 | 82 987 |
| FIXED COST | 39,033 | 40,911 | 42,788 | 44,135 | 54,167 | 59,448 | 50,549 | 5/,/0/ | 1 ++7,70 | 100.70 | 02020 | 00,070 | 100.00 | 200,100 | , , , , , , |
| | | ı L | 0000 | 200 | 120 001 | 305 352 | 195 005 | 405 064 | 776 878 | 650 347 | 869 065 | 643.634 | 679.328 | 676,490 | 636,176 |
| TOTALCOST | 240,236 | 955,15 | 204,/3/ | 312,003 | 412,001 | 10000 | 744,00 | 1277 | 7 22/25/27 | | | | | | |
| | | | | | | | | | | | | | | | |
| PRESENT VALUE | | | | | | | | | | | | | | | |
| @ Discount Rate of: | | L | | 200 | 1.000. | 205 305 | 175 665 | 105 064 | 126 878 | 650 347 | 590 628 | 643.634 | 679.328 | 676,490 | 636,176 |
| 0.00% | 240,236 | 317,359 | 264,737 | 312,005 | 419,001 | 505,535 | 364701 | 1227.22 | 200 | 200 | 779 500 | 217170 | 257 ASK | 147 110 | 318 646 |
| 2 50% | 170.021 | 219.126 | 178.334 | 205,048 | 268,688 | 241,049 | 318,904 | 295,290 | 422,189 | 308,330 | 2,00,74 | 777 | 20110 | | 100.004 |
| 2000 | 101 335 | <u> </u> | 121 279 | 136.127 | 174,129 | 152.497 | 196,948 | 178,022 | 248,466 | 211,734 | 183,135 | 190,067 | 191,055 | 181.197 | 107,204 |
| 2.00.70 | 161,33 | L | 020 20 | 777 | 114 005 | 175 72 | 123.018 | 108.611 | 148.063 | 123,240 | 104,114 | 105,542 | 103,624 | 95,991 | 83,973 |
| 7.50% | 187,18 | 10/.27 | 02,430 | 72,247 | 20.4.00 | 900 | 353 65 | 620.03 | 80 288 | 72 KAG | 59 964 | 59.405 | 56.999 | 51,601 | 44,115 |
| 10.00% | 63,262 | 75,973 | 57,615 | 67/19 | 72,272 | 000,00 | 5/01/ | 0,000 | 22,450 | 12.015 | 24 067 | 33.871 | 31 777 | 28 128 | 23.513 |
| 12.50% | 46,185 | 54 233 | 40,214 | 42,128 | 20,296 | 41,111 | 49,555 | 41.00. | 501 | C15-5- | | 1000 | 13045 | 15 520 | 107 Ct |
| 15.00% | 23055 | 39 002 | 28.291 | 28.993 | 33.862 | 27,077 | 31,929 | 26,351 | 35,580 | 727.07 | 550,02 | 13,732 | 27.7. | 10000 | 255 |
| 2005 | 25 126 | 070 00 | 20.054 | 20,115 | 22 493 | 17.994 | 20.767 | 16.775 | 20,922 | 15,932 | 12,314 | 11,421 | 10,259 | 8,694 | 45,59 |
| 17.30% | 20.12 | 002.00 | 0107 | 14062 | 15 749 | 12.062 | 13,631 | 10.781 | 13.166 | 9,817 | 7,430 | 6,747 | 5,934 | 4,925 | 3,859 |
| 20.02% | 10,711 | 06007 | 10.005 | 2000 | 078 01 | 8 157 | 900 | 6 997 | 8.364 | 6.110 | 4.529 | 4,029 | 3,472 | 2,822 | 2,167 |
| 77.20% | 020,41 | 15,113 | 7,450 | 7,500 | 7 540 | 5 554 | 5005 | 4 574 | 5.363 | 3.839 | 2,789 | 2,432 | 2,053 | 1,636 | 1,231 |
| 25.W% | 10,280 | 201.100 | 7,432 | 070'/ | 700.5 | 2 613 | 4.054 | 3018 | 3 469 | 2.435 | 1.734 | 1.482 | 1,227 | 856 | 707 |
| 27.50% | 3,007 | 8,237 | 5,478 | 5,018 | 3,200 | 7,010 | | 190 | 2000 | 1 550 | 1 088 | 017 | 741 | 295 | 410 |

| | | | | | | |
|-------------|-------|-----------------|-----------|---------------------|------------|------------|
| | TOTAL | 2,624,849 | 5,204,793 | 957,399 | 1,197,200 | 9,984,242 |
| | 2025 | 0 | 499,451 | 63,300 | 89,307 | 652,057 |
| CASE: III-1 | | INVESTMENT COST | FUEL COST | OTHER VARIABLE COST | FIXED COST | TOTAL COST |

| 1 | ····· | · | ۰ | | | | ار ا | | · | ,, | | | -1 |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|---------|----------------|
| - | 9,984,242 | 6,139,811 | 3,939,383 | 2,637,722 | 1,841,784 | 1,338,732 | 1,010,258 | 788,867 | 635,050 | 525,080 | 444,342 | 383,610 | 336,915 |
| | 652,057 | 318,635 | 158,415 | 80,065 | 41,105 | 21,422 | 11,325 | 6,070 | 3,296 | 1,813 | 1,009 | 568 | 324 |
| PRESENT VALUE Discount Rate of: | 0.00% | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% | 30.00% |
| PRESENT VAL |) | | - | | | | | | | | - | | become d |

Table 9.4.6 BASE CASE III-1 (ECONOMIC)

1000

Economic

TOTAL COST

| • | | -, | _, | | | | | | | | т- | т | ~~ | 7 | _ | "" | _ | _ | | Γ. | Γ | Γ | Г | 1 |
|-------|------------|---------|-----------------|-----------|---------------------|------------|---------|------------|---------------|---------------------|-----------|---------|-----------|--------|--------|---------|--------|---------|--------|--------|--------|--------|--------|----------|
| 2000 |) | 22,950 | 97,044 | 19,649 | 16.293 | | 155,937 | | | 155.937 | 113 120 | 5 | 160.78 | 60,903 | 45,170 | 33,726 | 25,344 | 19,163 | 14,575 | 11.148 | 8.573 | 6,627 | 5.149 | |
| 3000 | 2002 | 95,851 | 76,925 | 18,968 | 15,326 | | 207,070 | | | 207.070 | 153 068 | 200 | 113,304 | 86,939 | 65,979 | 50,383 | 38,703 | 29,899 | 23.224 | 18.134 | 14.230 | 11.220 | 8.888 | |
| 7000 | 7007 | 49,951 | 56,805 | 18,287 | 14,359 | | 139,401 | | | 139 401 | 105 244 | 7700 | 81,505 | 62,918 | 48.859 | 38,158 | 29.963 | 23.651 | 18.762 | 14.954 | 11 974 | 9.631 | 7.778 | |
| 7000 | 9007 | 32,625 | 49,465 | 15.725 | 12.532 | | 110,348 | | | 110 348 | 200 | 20,200 | 67.744 | 53,540 | 42.544 | 33.981 | 27.276 | 21.998 | 17.822 | 14 501 | 11 848 | 0.220 | 8002 | 2010 |
| 2000 | 5007 | 81.564 | 42,126 | 13,163 | 10.521 | | 147,374 | | | 1 47 274 | 1,01,1 | 118,00/ | 94,999 | 76.868 | 62 501 | 51.056 | 41 893 | 34.521 | 28 562 | 22.724 | 10.780 | 16 551 | 13.807 | 1,707. |
| 1 | 2002 42 | 79,707 | 33.890 | 10 391 | 8 305 | 22.5 | 132.294 | 1 | | 100 001 | 132,25 | 108,580 | 89.542 | 74.178 | 61 716 | 51,561 | 43 247 | 36.411 | 30.767 | 26,080 | 70,007 | 10.043 | 10,240 | 10,72,01 |
| | 2003 | 77.896 | 26.051 | 7 703 | 757 | 325 | 118 106 | | | 110101 | 118.100 | 99,358 | 83.936 | 71 189 | 50,507 | 787 18 | 24.48 | 101 105 | 30,62 | 36,901 | 10000 | 24,709 | 10001 | 10,022 |
| | 2002 | 76 179 | 18 503 | 2 156 | 7 532 | 1,72 | 104 410 | 7 | | 0,7,00 | 104,410 | 90,032 | 77.912 | 67.654 | 2000 | 105,937 | 71,702 | 20 675 | 23,072 | 100,40 | 30,838 | 2/2/2 | 24.50 | 71,031 |
| | 2001 | 7.4 404 | 11 503 | 207.0 | 2775 | 6,,,4 | 01 3AB | 27747 | | | 91,368 | 80.756 | 71 589 | 67.643 | 25.5 | 20,732 | 30,703 | 40,470 | 6,73 | 36,/19 | 33,122 | 25,939 | 27,117 | 24,608 |
| | 2000 | 21 135 | 2 473 | 1,4/1 | 1,757 | 1,724 | 77 415 | 7 (4.77) | | | 72,415 | 65.604 | 50 576 | 700 70 | 34,224 | 44,460 | 45,208 | 41.403 | 37,991 | 34,922 | 32,158 | 29,661 | 27,402 | 25,354 |
| ; | 1999 | 001 | 201.07 | + 6/7/ | 1,720 | 1,703 | 100 75 | 30,001 | | | 36,801 | 34.173 | 31 700 | 20,720 | 23,022 | 27,049 | 25,846 | 24,197 | 22,685 | 21,297 | 20,019 | 18,842 | 17,755 | 16,751 |
| | 1998 | 000 | 2,00% | 3,245 | 843 | 808 | 200 00 | 22,203 T | | | 22,203 | 21 133 | 120 | 20,139 | 19.213 | 18,350 | 17,543 | 16,789 | 16,082 | 15,419 | 14,796 | 14,210 | 13,658 | 13,138 |
| | 1997 | | 24,95/ | 3,454 | 826 | 28 | 1000 | 30,001 | | | 30.001 | 20,260 | 22,407 | 78,272 | 27,908 | 27,273 | 26,667 | 26,088 | 25,532 | 25,001 | 24,490 | 24,001 | 23.530 | 23,077 |
| | 1996 | | 16,251 | 0 | 0 | 0 | | 16,251 | | | 16.251 | 16.051 | 10,231 | 16,251 | 16,251 | 16,251 | 16,251 | 16,251 | 16,251 | 16,251 | 16,251 | 16,251 | 16,251 | 16,251 |
| | 1995 | - | 23,829 | 0 | 0 | 0 | | 23,829 | Economic | | 73 879 | 1000 | 74,47 | 25,021 | 25,616 | 26,212 | 26,808 | 27,404 | 27,999 | 28,595 | 29.191 | 29,786 | 30,382 | 30,978 |
| 11 | | | | | COST | | | | L | • | 10% | | %[%[| % | 2% | 0%0 | 9%0 | 260 | %0 | 250 | 0%0 | 0%0 | %0 | 30.00% |
| 111-1 | | | INVESTMENT COST | T | OTHER VARIABLE COST | ST | | TOTAL COST | PRESENT VALUE | @ Discount Rate of: | 0.00 | 5 6 | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% | 30.C |
| CASE: | | | NVESTME | FUEL COST | THER VA | FIXED COST | | TOT | PRESE | Discour | TOWN TOWN | | | | | | | | | | | | | |
| | ١ | | Ξ | 144 | <u> </u> | Į u. | ı | | | | | | | | | | | | | | o | 5 | ia. | |

| • | | |
|----|--|--|
| : | | |
| • | | |
| į | | |
| ξ. | | |
| , | | |
| ŝ | | |

Economic

| CASE: | 111-1 | | | | | | | | | | | | | | | |
|---------------------|---------------------|--------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|
| | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| TOOL TABLET | TOOUT AN | 40 051 | 95.851 | 22 950 | 66.826 | 124.539 | 57.713 | 189,509 | 73,351 | 239,347 | 164,196 | 149,627 | 174,378 | 126,339 | 94,839 | 13,388 |
| TIES COST | 1000 | 075 270 | 114 690 | 134 810 | 132,336 | 159.447 | 186.559 | 187,150 | 261.493 | 296,188 | 296,188 | 262,085 | 281,137 | 350,747 | 369,799 | 404,714 |
| OTHER VA | OTHER VARIABLE COST | L | 21 012 | 21.693 | 22 374 | 23.396 | 24.418 | 25,439 | 28.164 | 30,548 | 30,548 | 29,186 | 31,597 | 36,101 | 38,511 | 40,632 |
| FIXED COST | T, | $oldsymbol{\perp}$ | 16,374 | 17,341 | 16,454 | 20,997 | 23,389 | 19,027 | 22,386 | 23,993 | 26,526 | 26,720 | 27,490 | 27,747 | 30,919 | 33,744 |
| | | | | | | 000000 | 000 | 201 101 | 200 200 | 200,000 | | 1012 634 | 214 601 | 540 024 | 524 068 | 777 COA |
| TOTA | TOTAL COST | 180,258 | 247 927 | 196,794 | 237,990 | 328,380 | 292,078 | 421,120 | 383,393 | 350,070 | 517,438 | 407,010 | 214,001 | | 224,000 | 1767 |
| | | | | | | | | | | | | | | | | |
| PRESEN | PRESENT VALUE | | | | | | | | | | | | | | | |
| @ Discount Rate of: | Rate of: | | | | | | | | | | | | | | 37.0 | |
|) | %000 | 180.258 | 247 927 | 196.794 | 237,990 | 328,380 | 292,078 | 421,126 | 385.395 | 590,076 | 517,458 | 467,618 | 514,601 | 540,934 | 534,068 | 492,477 |
| | 2 50% | 177 577 | 171 185 | 132.565 | 156.406 | 210.546 | 182,703 | 257,001 | 229.459 | 342,754 | 293,242 | 258,534 | 277,571 | 284,658 | 274,190 | 246,671 |
| | 2000 | 01 047 | 110 257 | 90.154 | 103 834 | 136.449 | 115,585 | 158,718 | 138,334 | 201,717 | 168,469 | 144,993 | 151,963 | 152,133 | 143,049 | 125,628 |
| | 250% | 65,400 | 23,701 | 61.870 | 69 601 | 89 336 | 73.916 | 99,139 | 84.397 | 120,205 | 98,057 | 82,430 | 84,384 | 82,513 | 75,782 | 65,005 |
| | 10.00 | 47,468 | 50 357 | 47.878 | 47.085 | 59.062 | 47.757 | 62.598 | 52,079 | 72.488 | 57,789 | 47,475 | 47,496 | 45,387 | 40,737 | 34,150 |
| | 12 50% | 24 654 | 42 368 | 20,893 | 32.134 | 39.412 | 31.160 | 39,936 | 32,486 | 44,213 | 34,464 | 27,684 | 27,081 | 25,303 | 22,206 | 18,202 |
| | 15.00% | 25.476 | 30.469 | 21.030 | 22,115 | 26.535 | 20.523 | 25,731 | 20,476 | 27,262 | 20,789 | 16,336 | 15,632 | 14,289 | 12,267 | 9,837 |
| | 17.50% | 18.857 | 22.068 | 14,908 | 15.343 | 18.018 | 13,639 | 16,736 | 13,035 | 16,985 | 12,677 | 9,749 | 9,131 | 8,169 | 6,864 | 5,387 |
| | 2000% | 14 040 | 16.092 | 10.644 | 10,727 | 12.334 | 9,142 | 10,985 | 8,377 | 10,689 | 7,811 | 5,882 | 5,394 | 4,725 | 3,888 | 2,988 |
| | 22 50% | 10,519 | 11.811 | 7,653 | 7,555 | 8,510 | 6,179 | 7,273 | 5,433 | 6,791 | 4,861 | 3,586 | 3,222 | 2,764 | 2,228 | 1,677 |
| | 25.00% | 7,928 | 8,723 | 5,539 | 5,359 | 5,916 | 4,209 | 4,855 | 3,555 | 4,354 | 3,055 | 2,208 | 1,944 | 1,635 | 1,291 | 953 |
| | 27 500% | 6.008 | 6 481 | 4.035 | 3.827 | 4.142 | 2.889 | 3,267 | 2,345 | 2,816 | 1,937 | 1,373 | 1,185 | 22. | 757 | 547 |
| | 1,000 | 2222 | , | | | | | | - | | | - | | | | |



| 111-1 |
|-------|
| CASE: |

温度で

| TOTAL | 2,403,443 | 6 4,389,829 | 583,883 | 481,100 | |
|-------|-----------------|-------------|---------------------|------------|--|
| 2025 | 0 | 423,766 | | 36,460 | |
| | INVESTMENT COST | FILE COST | OTHER VARIABLE COST | FIXED COST | |

PRESENT VALUE @ Discount Rate of:

TOTAL COST | 503,268 | 7,858,255

| | 503,268 | % 245,927 4,838,111 | % 122,267 3,110,170 | % 61,795 2,088,378 | 9% 31,726 1,463,716 | 16,534 1,068,912 | 8.741 | 9% 4,685 637,094 | 2,544 | 7% 1,399 429,467 | 9% 779 365,733 | 9% 439 317,681 | 777 300 |
|--------------|---------|---------------------|---------------------|----------------------|---------------------|------------------|--------|------------------|--------|------------------|----------------|----------------|---------|
| unt Kate or: | 0.00% | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% | |

9 - 61

Table 9.4.7 HIGH CASE I-2 (FINANCIAL)

| | į | | | Γ | Γ- | Г Т | ì | [] | ı | | | _ | _ | ۳ | т | Γ | | _ | Γ- | r | _ | т- | Γ. |
|--------------|-----------|------|-----------------|-----------|-------------------------|------------|---|------------|---|---------------|---------------------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 2011 | 31,515 | 215,934 | 17,400 | 27,236 | | 292,085 | | | | 292 085 | 201,675 | 140.498 | 98,715 | 69,923 | 49.914 | 35.896 | 25,998 | 18,958 | 13.915 | 10,277 | 7576 |
| | | 2010 | 136,012 | 183,402 | 15,940 | 24,596 | | 359,950 | | | | 359.950 | 254,746 | 181,799 | 130,775 | 94,786 | 69,200 | 50.871 | 37,645 | 28,035 | 21.006 | 15.831 | 11 00% |
| | | 2009 | 72,982 | 150.870 | 14,480 | 21,956 | | 260,288 | | | | 260,288 | 188,818 | 138,036 | 101,658 | 75,396 | 56,295 | 42,304 | 31,986 | 24,327 | 18,607 | 14,309 | 11 062 |
| | | 2008 | 25,065 | 153,836 | 13,507 | 20,609 | | 213,017 | | | | 213,017 | 158,390 | 118,616 | 89,436 | 67,874 | 51,830 | 39,814 | 30,758 | 23,891 | 18,654 | 14,638 | 11 542 |
| | | 2002 | 104,681 | 129,694 | 12,534 | 18,732 | | 265,641 | | | | 265,641 | 202.457 | 155,315 | 119,895 | 93,105 | 72,714 | 57,098 | 45,069 | 35,752 | 28,497 | 22,818 | 18352 |
| | | 2006 | 54,552 | 105,551 | 11,561 | 16.854 | | 188,518 | | | | 188,518 | 147,270 | 115,734 | 91,468 | 72,682 | 58,053 | 46,599 | 37,582 | 30,447 | 24,774 | 20,242 | 16,605 |
| in manual in | Tulancia | 2005 | 25.065 | 108,518 | 10,588 | 15,496 | | 159,666 | | | | 159,666 | 127,849 | 102,922 | 83,279 | 67,714 | 55,315 | 45,387 | 37,400 | 30,944 | 25,703 | 21,430 | 17.932 |
| L . | | 2004 | 102,299 | 82,199 | 9,423 | 13,266 | | 207,187 | | | | 207,187 | 170,048 | 140,232 | 116,170 | 96,654 | 80,750 | 67,730 | 57,024 | 48,185 | 40,858 | 34,760 | 29 658 |
| | | 2003 | 52,099 | 57,165 | 8,300 | 11,195 | | 128,760 | | | | 128,760 | 108,321 | 91,507 | 77,611 | 66,074 | 56,456 | 48,406 | 41,641 | 35,935 | 31,105 | 27,003 | 23.508 |
| | | 2002 | 23,394 | 58,435 | 7,218 | 069'6 | | 98,736 | | | | 98,736 | 85.140 | 73,679 | 63,977 | 55,734 | 48,704 | 42,686 | 37,519 | 33,067 | 29,219 | 25,883 | 22,983 |
| | | 2001 | 95.492 | 35,180 | 6,174 | 7,888 | | 144.735 | | | | 144 735 | 127.925 | 113,404 | 100,816 | 698'68 | 80,318 | 71,959 | 64,623 | 58,166 | 52,468 | 47,427 | 42,956 |
| .cost | | 2000 | 68,080 | 8,725 | 3,446 | 4.051 | | 84,301 | | | | 84,301 | 76.373 | 69,355 | 63,125 | 57,579 | 52,629 | 48,200 | 44,227 | 40,655 | 37,436 | 34,530 | 31.900 |
| TOTAL COST | | 6661 | 28,504 | 8,500 | 3,377 | 3,932 | | 44,313 | | | | 44,313 | 41,149 | 38,279 | 35,670 | 33,293 | 31,122 | 29,136 | 27,316 | 25,644 | 24.106 | 22,688 | 21.380 |
| | | 1998 | 18,574 | 4,140 | 1,654 | 1.865 | | 26,234 | | | | 26,234 | 24,970 | 23,795 | 22,701 | 21.681 | 20.728 | 19,837 | 19,002 | 18,218 | 17,482 | 16,790 | 16.138 |
| | | 1997 | 27,234 | 4,033 | 1,621 | 1,811 | | 34,699 | | | | 34,699 | 33,853 | 33,047 | 32,279 | 31,545 | 30,844 | 30,173 | 29,531 | 28,916 | 28,326 | 27,760 | 27.215 |
| | | 1996 | 17,748 | 0 | 0 | 0 | | 17,748 | | | | 17,748 | 17,748 | 17,748 | 17,748 | 17.748 | 17.748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 |
| | N | 1995 | 26.024 | 0 | 0 | 0 | | 26,024 | | Financial | | 26,024 | 26.675 | 27.326 | 27,976 | 28,627 | 29,277 | 29,928 | 30.579 | 31.229 | 31,880 | 32,530 | 33.181 |
| | DEVIATION | (%) | 0.0% | 0.0% | 0.0% | 0.0% | | | | | | | | | | | | | | | | | |
| Financial | DEV | | | | ABLE COS | | | COST | | VALUE | ite of: | 0.00% | 2.50% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% |
| CASE: | L-, | | INVESTMENT COST | FUEL COST | OTHER VARIABLE COSTO.0% | FIXED COST | | TOTAL COST | | PRESENT VALUE | @ Discount Rate of: | لــا | | | | l | | | ! | | | _1 | |

| 3,000,183 | 7.243.231 | 507 108 | 274,170 | 150,/59 | | 11.775,262 | | | 11,775,262 | 7.173.339 | 757 755 7 | 00+000 | 3,017,234 | 2,083,468 | 1 497.807 | 1110 205 | 1,110,222 | 864,697 | 689,810 | . 565,720 | 475.270 | 407 689 | |
|-----------|----------------------------------|---|---|--|---|--|--|--|---|---|---|--|---|---|---|--|--|--|---|--|--|--|--|
| 0 | 005 699 | 51 057 | 72,037 | 91,291 | | 811,849 | | | 811,849 | 396.719 | 700.00 | 17,720 | 99,685 | 51.178 | 26 672 | | 4,10 | 7557 | 4,104 | 2,257 | 1256 | 707 | 2 |
| 44,109 | 581.650 | 17 205 | 42,393 | 83,838 | | 751,992 | | | 751.992 | 376 656 | 000 101 | 191,020 | 99,260 | 52.146 | 27.703 | 000 | 070,51 | 8,225 | 4.562 | 2.561 | 257 | 250 | 3 |
| 105,603 | 500 107 | 20.000 | 38,300 | 74,216 | | 718,576 | | | 718.576 | 268 017 | | 192,409 | 101,963 | 54.811 | 20 878 | 2/2/2 | 10,500 | 9,235 | 5.231 | 2.998 | 727 | 0 | 1.016 |
| 315,457 | 527.15K | 2000 | 88,050 | 65.075 | | 943,343 | | | 943.343 | 406 420 | 2000 | 705,502 | 143.896 | 70 157 | 101 100 | | 24.919 | 14,246 | 8.241 | 4 821 | 2 851 | . 2017 | ÷0, |
| 253.471 | 170 007 | 1500 | 38.617 | 62,152 | | 835,081 | | | 835 081 | 450 425 | 200 | 246,602 | 136.936 | 77,077 | 270077 | 2 | 25,368 | 14,818 | 8.754 | 5.238 | 2155 | 7.55 | 1,923 |
| 340.890 | 10000 | 4000 | 38,617 | 56,872 | | 917,220 | | | 017 220 | 201 202 | 4 | _ | Ĺ | 03 121 | 200.1 | 77 | 32,042 | 19.123 | 11 538 | 7.024 | 1,500 | 4,331 | 2,693 |
| 210 837 | | 2 | 38.617 | 49.490 | | 779,785 | | | 730 785 | 2000 | 441,502 | 253.876 | 147.768 | 200.00 | 60.76 | 31,950 | 31,327 | 19,103 | 1771 | 7 226 | 350, | 4.003 | 2.919 |
| 361 306 | 1 | 502,4/4 | 24.430 | 48.356 | | 846.656 | | | 757 770 | 00000 | 49.7.75 | 289.429 | 170 173 | 104.000 | 075 | 63,438 | 39,116 | 24 371 | 15 226 | 27.0 | 200 | 0.247 | 4.041 |
| 901.00 | 3 | 371,632 | 27.131 | 41.942 | | 520.813 | | | 610 002 | 240,615 | 310,085 | 186.942 | 174 653 | 114,034 | 8/c'n/ | 43,901 | 27.671 | 17.615 | 13 221 | 11.721 | 745 | 4,8,4 | 3169 |
| 165 500 | 303.00 | 314,957 | 24.698 | 37,424 | | 542 579 | | | CE2 C72 | 342,579 | 331,120 | 204 402 | 060 500 | 127,730 | 20,08 | 51,453 | 33.152 | 29516 | | 4.00 | 2.570 | 6,256 | 4210 |
| 2000 | 706'7/ | 282,424 | 93 239 | 14.784 | 2 | A | | | 00, 00, | 415,429 | | 16 | | 104.020 | 5/25 | | | 10.204 | | 14,741 | 8,700 | 5,958 | 000.7 |
| 0,00 | 51,515 | 281.711 | L | 33,650 | 2000 | 368 656 | | | 0,00 | | | L | | | 90,300 | 44.246 | 20 789 | 20.27 | 1 | 13.897 | 9,554 | 6.641 | A 650 |
| 0.0 | 130,012 | 249.179 | 20.310 | 31 010 | 21016 | 436 571 | 17000 | | ١. | -4 | | | | 700'/7! | 86,363 | 58.940 | 40 564 | 20.343 | 41.00 | 2007 | 13,858 | 9,830 | 7.00 |
| | 72,982 | 216.647 | 10.050 | 10,000 | 20/2/07 | 850 752 | 000000 | | | 336,858 | 226.916 | 154 210 | 174,517 | 155.55 | 73,310 | 51.169 | 300 % | | 01.00 | 18,220 | 13,100 | 9,482 | 2007 |
| | 253.471 315,457 105,603 44,109 0 | 982 165.500 80.108 261,396 210,837 340,890 253,471 315,457 105,603 44,109 0 | 136,012 31,515 72,982 165,500 80,108 261,336 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 480,841 524,156 500,197 581,550 669,500 | 136,012 31,515 72,982 165,500 80,108 261,396 210,837 340,890 253,471 315,457 105,603 44,109 0 1249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 480,841 524,156 500,197 581,630 669,500 249,179 281,711 28,648 27,131 34,430 38,617 38,617 38,617 38,656 38,560 42,395 51,057 | 136,012 31,515 72,982 165,500 80,108 261,336 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 574,156 500,197 581,650 669,500 24,179 23,239 24,698 27,131 34,630 38,617 38 | 136.012 31,515 72,982 165,500 80,108 261,336 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 450,841 524,156 500,197 581,650 669,500 20,319 21,779 23,239 24,698 27,131 34,430 38,617 38,617 38,656 38,556 42,395 51,057 31,010 33,650 34,784 41,942 48,356 56,872 62,152 65,075 74,216 83,838 91,291 | 136,012 31,515 72,982 165,500 80,108 261,396 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 23,239 24,698 27,131 34,430 38,617 38,617 38,656 38,560 42,395 51,057 31,010 33,630 34,784 37,424 41,942 48,356 49,490 56,872 62,152 65,075 74,216 83,838 91,291 44,655 47,784 41,942 48,356 779,785 917,220 835,081 943,343 718,576 751,992 811,849 1 | 136,012 31,515 72,982 165,500 80,108 261,396 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 311,632 502,474 480,841 480,841 524,156 500,197 581,630 669,500 20,319 24,698 27,131 34,430 38,617 38,617 38,656 38,550 42,395 51,057 31,010 33,650 34,784 41,942 48,356 49,490 56,872 62,152 65,075 74,216 83,838 91,291 436,521 368,656 41,942 48,356 49,490 56,872 62,152 65,075 74,216 83,838 91,291 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 | 136,012 31,515 72,982 165,500 80,108 261,396 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 23,239 24,698 771,131 34,430 38,617 38,617 38,656 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 49,490 56,872 62,152 65,075 74,216 83,838 91,291 436,521 36,856 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 | 136,012 31,515 72,982 165,500 80,108 26,1396 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,842 480,842 480,842 | 136,012 31,515 72,982 165,500 80,108 26,1396 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 23,239 24,698 27,131 34,430 38,617 38,617 38,656 38,556 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 | 136,012 31,515 72,982 165,500 80,108 26,139 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 23,239 24,698 77,131 34,430 38,617 38,617 38,656 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 76,172 65,075 74,216 83,388 91,291 436,521 36,650 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 456,521 368,556 413,41,902 507,108 450,435 368,917 | 136,012 31,515 72,982 165,500 80,108 26,139 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 23,239 24,698 27,131 34,430 38,617 38,617 38,656 38,556 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 366,527 48,536 779,785 917,220 835,081 943,343 718,576 751,992 811,849 456,521 366,527 248,400 250,435 441,902 | 136,012 31,515 72,982 165,500 80,108 26,139 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 23,239 24,698 77,131 34,430 38,617 38,617 38,656 38,556 38,560 42,395 51,057 31,010 33,650 34,784 37,424 41,942 48,356 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 286,879 236,366 413,429 | 136,012 31,515 72,982 165,500 80,108 26,1396 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,841 480,841 524,156 500,197 581,650 42,395 51,057 20,319 21,779 22,239 24,698 27,131 34,430 38,617 38,617 38,656 38,666 42,395 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 286,879 236,536 420,490 56,875 917,220 835,081 943,245 751,992 811,849 286,871 386,556 413,429 540,499 56,875 | 136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,841 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 23,239 24,698 27,131 34,430 38,617 38,617 38,656 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,246 751,992 811,849 436,521 36,652 413,429 520,813 846,656 779,785 917,220 835,081 943,246 751,992 811,849 286,571 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,246 751,992 811,849 286,572 36,536 41,902 507,108 450,435 496,420 368,917 | 136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 22,239 24,698 77,131 34,430 38,617 38,617 38,656 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 65,075 74,216 83,388 91,291 436,521 36,650 41,409 56,675 74,216 83,388 91,291 436,521 36,652 779,785 917,220 835,081 943,345 71,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,345 751,992 811,849 436,521 368,526 43,430 26,672 56,075 74,216 </td <td>136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,841 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 22,239 24,698 27,131 34,430 38,617 38,617 38,656 38,666 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 286,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,249 751,992 811,849 286,521 358,656 413,479 441,902 571,08</td> <td>136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,841 480,841 524,156 500,197 581,650 42,395 51,057 249,179 281,771 282,424 314,957 371,632 38,617 38,617 38,656 38,556 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,436 751,992 811,849 436,521 36,652 413,429 520,813 846,656 779,785 917,220 835,081 943,46 751,992 811,849 436,521 368,656 413,429 540,817 38,600 35,619 35,656 396,719 436,521 368,656 413,429 540,817 38,617 38,600 35,600 421,396 91,291 811,849 <</td> <td>136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 524,156 500,197 581,650 669,500 249,179 23,239 24,698 771,613 34,430 38,617 38,617 38,656 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 942,395 74,216 83,838 91,291 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,345 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,345 718,576 751,992 811,849 436,521 368,656 413,470 310,082 471,075 470,470 346,470</td> <td>136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,841 480,841 480,841 480,841 480,841 38,656 38,566 38,566 38,566 42,395 51,057 <td< td=""><td>136,012 31,515 72,982 165,500 80,108 26,136 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 524,156 500,197 581,650 65,075 31,635 38,650 42,395 31,057 <td< td=""><td>136,012 31,515 72,982 165,500 80,108 261,386 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 536,156 500,197 581,650 642,396 51,057 20,319 21,779 23,239 24,698 27,131 34,490 56,872 62,152 38,656 42,396 31,057 38,617 38,617 38,617 38,650 74,216 83,838 91,291 31,010 33,650 34,784 41,942 49,490 56,872 62,152 74,216 83,838 91,291 436,521 368,656 413,429 542,579 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 246,521 336,656 413,429 542,579 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992</td></td<></td></td<></td> | 136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,841 480,841 480,841 524,156 500,197 581,650 669,500 20,319 21,779 22,239 24,698 27,131 34,430 38,617 38,617 38,656 38,666 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,343 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 286,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,249 751,992 811,849 286,521 358,656 413,479 441,902 571,08 | 136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,841 480,841 524,156 500,197 581,650 42,395 51,057 249,179 281,771 282,424 314,957 371,632 38,617 38,617 38,656 38,556 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,436 751,992 811,849 436,521 36,652 413,429 520,813 846,656 779,785 917,220 835,081 943,46 751,992 811,849 436,521 368,656 413,429 540,817 38,600 35,619 35,656 396,719 436,521 368,656 413,429 540,817 38,617 38,600 35,600 421,396 91,291 811,849 < | 136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 524,156 500,197 581,650 669,500 249,179 23,239 24,698 771,613 34,430 38,617 38,617 38,656 38,560 42,395 51,057 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 942,395 74,216 83,838 91,291 31,010 33,650 34,784 41,942 48,356 779,785 917,220 835,081 943,345 718,576 751,992 811,849 436,521 368,656 413,429 520,813 846,656 779,785 917,220 835,081 943,345 718,576 751,992 811,849 436,521 368,656 413,470 310,082 471,075 470,470 346,470 | 136,012 31,515 72,982 165,500 80,108 26,137 340,890 253,471 315,457 105,603 44,109 0 249,179 281,771 282,424 314,957 371,632 502,474 480,841 480,841 480,841 480,841 480,841 480,841 38,656 38,566 38,566 38,566 42,395 51,057 <td< td=""><td>136,012 31,515 72,982 165,500 80,108 26,136 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 524,156 500,197 581,650 65,075 31,635 38,650 42,395 31,057 <td< td=""><td>136,012 31,515 72,982 165,500 80,108 261,386 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 536,156 500,197 581,650 642,396 51,057 20,319 21,779 23,239 24,698 27,131 34,490 56,872 62,152 38,656 42,396 31,057 38,617 38,617 38,617 38,650 74,216 83,838 91,291 31,010 33,650 34,784 41,942 49,490 56,872 62,152 74,216 83,838 91,291 436,521 368,656 413,429 542,579 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 246,521 336,656 413,429 542,579 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992</td></td<></td></td<> | 136,012 31,515 72,982 165,500 80,108 26,136 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 524,156 500,197 581,650 65,075 31,635 38,650 42,395 31,057 <td< td=""><td>136,012 31,515 72,982 165,500 80,108 261,386 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 536,156 500,197 581,650 642,396 51,057 20,319 21,779 23,239 24,698 27,131 34,490 56,872 62,152 38,656 42,396 31,057 38,617 38,617 38,617 38,650 74,216 83,838 91,291 31,010 33,650 34,784 41,942 49,490 56,872 62,152 74,216 83,838 91,291 436,521 368,656 413,429 542,579 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 246,521 336,656 413,429 542,579 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992</td></td<> | 136,012 31,515 72,982 165,500 80,108 261,386 210,837 340,890 253,471 315,457 105,603 44,109 0 249,179 281,711 282,424 314,957 371,632 502,474 480,841 480,841 536,156 500,197 581,650 642,396 51,057 20,319 21,779 23,239 24,698 27,131 34,490 56,872 62,152 38,656 42,396 31,057 38,617 38,617 38,617 38,650 74,216 83,838 91,291 31,010 33,650 34,784 41,942 49,490 56,872 62,152 74,216 83,838 91,291 436,521 368,656 413,429 542,579 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 811,849 246,521 336,656 413,429 542,579 520,813 846,656 779,785 917,220 835,081 943,343 718,576 751,992 |

Financial

| | 2011 | 28.857 | 180,288 | 11.088 | 8,543 | 228,775 | | | 228.775 | 157,961 | 10,045 | 77.318 | 54 767 | 39,095 | 28,115 | 20,363 | 14,849 | 668'01 | 8,049 | 5,981 | 4,469 |
|------------|-----------|-----------------|-------------|------------------------|------------|------------|---|---------------|---------------------|-----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| | - | ╃┥ | | 4 | | Н | | | - | _ | | _ | Н | Н | - | _ | | | _ | _ | \dashv |
| | 2010 | 124,539 | 7 [153,177 | 10,067 | 7,347 | 295,130 | | | 295.130 | 2 208,872 | 149,06 | ļ., | H | 56,739 | 41,710 | 30,866 | 22,987 | 17,223 | 12,980 | 9.837 | 7,496 |
| | 2009 | 66,826 | 126,067 | 9.045 | 6,151 | 208,089 | | | 208.089 | 150,952 | 110,354 | 81,272 | 60,276 | 45,006 | 33,820 | 25,572 | 19,449 | 14,876 | 11,440 | 8,843 | 6,870 |
| | 2008 | 22,950 | 128,540 | 8,364 | 7,038 | 166,892 | | | 166.892 | 124,093 | 92,932 | 070,07 | 53,177 | 40,607 | 31.193 | 24,098 | 18,718 | 14,615 | 11,469 | 9,043 | 7,163 |
| | 2007 | 95,851 | 108,420 | 7,682 | 6,071 | 218,025 | | | 218.025 | 166,167 | 127,475 | 98,404 | 76,417 | 59,680 | 46,863 | 36,991 | 29,344 | 23,389 | 18,728 | 15,062 | 12,166 |
| | 2006 | 49,951 | 88,301 | 7,001 | 5,104 | 150,357 | | | 150,357 | 117,459 | 92,306 | 72,952 | 57,969 | 46.302 | 37,166 | 29,974 | 24,284 | 19,759 | 16,144 | 13,244 | 10,907 |
| Economic | 2005 | 22,950 | 90,774 | 6,320 | 5,949 | 125,993 | | | 125.993 | 100,886 | 81,216 | 65,716 | 53,433 | 43,649 | 35,815 | 29,513 | 24,418 | 20,283 | 16,911 | 14,150 | 11,881 |
| _ | 2004 | 93,670 | 68.833 | 5,527 | 4.858 | 172,887 | | | 172,887 | 141,897 | 117,017 | 96,938 | 80,653 | 67,382 | 56,517 | 47.584 | 40,208 | 34,094 | 29,006 | 24,756 | 21,194 |
| | 2003 | 47,705 | 47,963 | 4,762 | 3,847 | 104,277 | | | 104.277 | 87,724 | 74,108 | 62,853 | 53,511 | 45,721 | 39,202 | 33,723 | 29,102 | 25,190 | 21,868 | 19.038 | 16,618 |
| | 2002 | 21,421 | 49,012 | 4,025 | 4.450 | 78,909 | | | 78,909 | 68,043 | 58.883 | 51,130 | 44,542 | 38,923 | 34,115 | 29,985 | 26,426 | 23,351 | 20,686 | 18,368 | 16,348 |
| | 2001 | 87,438 | 29,626 | 3,316 | 3,538 | 123,917 | | | 123,917 | 109,524 | 97,092 | 86,315 | 76,943 | 68,765 | 61,609 | 55,327 | 66,799 | 44,921 | 40,605 | 36,777 | 33,374 |
| TOTAL COST | 2000 | 62.337 | 7,471 | 1,755 | 1,754 | 73,318 | | | 73 318 | 66.422 | 60,319 | 54,900 | 50.077 | 45,772 | 41,920 | 38.464 | 35,358 | 32.558 | 30,031 | 27,744 | 25,671 |
| TOTA | 1999 | 26.100 | 7.278 | 1.720 | 1.703 | 36,801 | | | 36.801 | 34.173 | 31.790 | 29.623 | 27.649 | 25,846 | 24,197 | 22 685 | 21.297 | 20.019 | 18.842 | 17,755 | 16,751 |
| | 1998 | 17,008 | 3.545 | 843 | 808 | 22,203 | | | 20 203 | 21.133 | 20.139 | 19.213 | 18350 | 17.543 | 16,789 | 16.082 | 15,419 | 14.796 | 14.210 | 13,658 | 13,138 |
| | 1997 | 24 937 | 3.454 | 826 | 784 | 30,001 | | | 30.003 | 20.760 | 28 572 | 27.908 | 27.273 | 26.667 | 26.088 | 25.532 | 25.001 | 24.490 | 24,001 | 23,530 | 23,077 |
| | 9661 | 16.251 | c | c | 0 | 16,251 | | | 16.051 | 16.251 | 16.251 | 16.253 | 16.251 | 16.251 | 16.251 | 16 251 | 16.251 | 16.251 | 16.251 | 16.251 | 16,251 |
| | 1995 | 23,829 | L | L | | 23.829 | | Economic | 22.270 | 24 425 | 25,021 | 25,616 | 26.212 | 26.808 | 27 404 | 27 999 | 28 595 | 29 191 | 29.786 | 30.382 | 30,978 |
| | DEVIATION | 1000 000 | 0.09 | 2510 D9 | 0.0% | Γ | 1 | | ٢ | Т | T | Ţ | 1 | Γ | Γ | T- | Τ | Γ. | Γ | T | Π |
| Economic | a | TCOST | | TARLEO | | COST | | T VALUE | Kate of: | 2 50% | 200% | 250% | 10.00% | 12.50% | 15.00% | 17 50% | 20.00% | 22 50% | 25.00% | 27.50% | 30.00% |
| CASE: | | TNVESTWENT COST | TSCO EDIT | OTHER VARIABLE COSO 0% | FIXED COST | TOTAL COST | | PRESERT VALUE | @ Discount Nate of: | -4 | | - | - | • | - | - | | | • | | L |



| Economic | |
|----------|----------|
| | Economic |

| TOTAL | 2,747,117 | 6.069.446 | F00 F04 | 7,700./ | 337.826 | 220172 | 9,552,197 | |
|-------|-----------|-----------|---------|---------|---------|--------|-----------|---------|
| 2025 | 0 | C6C 1795 | 117000 | 37.347 | *** | | 638,200 | |
| 2024 | 40,388 | 189 831 | | 51,045 | 23.463 | 2000 | 594,732 | |
| 2023 | 96,695 | 420.816 | 2000 | 27,566 | 11606 | 47,414 | 574,291 | |
| 2022 | 288.848 | 720 570 | 437475 | 27,200 | 10770 | *7+,+7 | 780,001 | |
| 2021 | 232.091 | L | 1 | 26.803 | İ | | 685,424 | |
| 2020 | 312 136 | 012 001 | 40.040 | 26.839 | 207.00 | 20,585 | 763,078 | |
| 2019 | 101.073 | 0.5 | 40,5% | 26.809 | | 17,413 | 640.823 | |
| 2018 | 730 347 | | 419,071 | 23.010 | | 17,231 | 698,658 | 2000 |
| 2017 | 72 351 | | 310,036 | 1.7 O.M | | 14,657 | 415 944 | 1127 |
| 2016 | 161 640 | | 262,806 | 16 107 | | 12,494 | 443 M38 | |
| 2015 | 20037 | 070,00 | 235.696 | 15 176 | | 1 296 | 300 905 | 200 |
| 2014 | 1,50 | 100.07 | 235.102 | 14 154 | 7.7. | 11.116 | 000 000 | 2771207 |
| 2013 | | 124,539 | 207.992 | 12 122 | 15,15 | 9.921 | 102 236 | 223,304 |
| 2012 | | 00,820 | 180.882 | | 14,110 | 8 775 | 675 676 | 400745 |

| 9,552,197 | 5 80 A 722 | 2000 | 3.703,830 | 2,457,455 | 1 200 227 | 1,00,00 | 1,226,037 | 040 | 710,432 | 712 671 | | 570.756 | | 469,992 | 20K A92 | 220.402 | 41.508 | | 255,455 |
|-----------|------------|-----------|-----------|-----------|-------------|---------|-----------|--------|---------|---------|---------|---------|--------|---------|---------|-----------|--------|--------|---------|
| 638,200 | 211 863 | | 155.048 | 78.363 | 40.00 | 70704 | 20.967 | , | 11.083 | 2,50.5 | | 3776 | | 1,774 | 1 000 | Š | × × × | | 317 |
| 594.732 | 207 200 | 27,727 | 151,712 | 78,503 | ,,,,, | 41.741 | 21.981 | (C.) | 11.879 | 505 5 | 2 | 3077 | 3 | 2,025 | 026.4 | 3 | 133 | | × |
| 574.291 | 201001 | 77,041 | 153,823 | 81.490 | 200 | 43,800 | 23.879 | | 13.191 | 1002 | /-20¥ | 1817 | 1 | 2396 | 900 | 1,389 | 213 | | 283 |
| 780.001 | 737 757 | 5,07 | 219,368 | 118 980 | | 65,440 | 36 486 | | 20,604 | 02.2 | 11,1/9 | 7107 | 100 | 3,986 | 0,00 | 2,357 | 907 | , | 2 |
| 685.424 | 2000 | 202.711 | 202,408 | 305 CT | | 63.262 | 36.070 | | 20.822 | | 70171 | 2016 | , 10 | 4.291 | 300 | 200 | 062 5 | J. (c | ξ |
| 763.078 | | 421,887 | 236.606 | 124513 | | 77.47.2 | 27.1.22 | 2,112 | 26.658 | | 015,510 | 50.50 | 4,237 | 5.852 | | 3,00 | | 4.440 | 1.40% |
| 508 083 | 200 | 365,153 | 208.634 | 327 561 | 777 | 7.566 | 107 CV | 3 | 25 745 | | 15.693 | , C. V | 5/0/5 | 600 | 2 | 3.783 | 000 | 25.7 | 1 525 |
| 857 807 | 22020 | 405,826 | 238.836 | 2000 | 14.25.25 | 82.833 | 076.02 | 74.75 | 27 278 | | 20.11 | | 12.655 | 0,000 | 3 | 5155 | | 7,5,5 | 2476 |
| 415.044 | 1,0,0 | 247.648 | 140 200 | | 75,17 | 56 207 | 0,000 | 200,00 | 22 000 | | 200 | 3 | 200 | 2 954 | t S | 7836 | 2000 | 253 | 30 |
| 000 000 | 45,030 | 270.373 | 166 076 | 2000 | 3.5 | 65.855 | | 47,014 | 070 66 | | 5 | 3 | 1.556 | 7.551 | 1,00,1 | 5015 | 3 | 3.437 | |
| 200 000 | 365,370 | 205.796 | 120 105 | | 5,03 | 23 704 | | 500 | 72117 | | 15 363 | 2 | 10 298 | 0909 | 0,70 | 1 7 7 A 7 | 74.14 | 3.255 | 0,00 |
| 000 | 777,423 | 185.444 | 100 101 | 120,101 | CS9'S/ - | 000 65 | | 54.713 | 32 271 | 7.7.1 | 2000 | 20012 | 280 | 200 | (44) | 5 210 | 7.410 | × × | |
| 100 | 335,584 | 1 273 688 | 25. | 7.77 | 103.592 | 20.250 | | 46.012 | 22.0 | 22.04.2 | 2000 | 17.77 | 16.027 | 000 | 9 | 2000 | ļ | × 7.7× | ļ |
| 9,1 | 258,543 | 180 897 | | 20,0 | 84,426 | 20 4.43 | Ç. | 25.55 | 90,00 | 26,070 | 27.7 | 3 | 3C2 F | | 4 | 7 6.00 | VCC. | × | 2 |

11-2

CASE:

Financial 2002

TOTAL COST

| 7 | | | ٠., | <u></u> | | _ | | | | r | | | _ | | , | | | | | | | _ |
|----|-----------------|-----------|---------------------|------------|---|------------|---|---------------|---------------------|-----------|---------|---------|---------|---------|--------|---------|--------|--------|--------|--------|--------|--------|
| - | 162,244 | 215,937 | 17,400 | 27,236 | | 422,816 | | | | 422,816 | 291,940 | 203,382 | 142,898 | 101,219 | 72,254 | 51,962 | 37,634 | 27,443 | 20,142 | 14,877 | 11,053 | 8,260 |
| | 219,929 | 183,403 | 15,940 | 24,596 | | 443,868 | | | | 443,868 | 314,138 | 224,184 | 161,263 | 116,884 | 85,333 | 62,731 | 46,422 | 34,571 | 25,903 | 19,522 | 14,795 | 11,273 |
| | 090'06 | 150,870 | 14,480 | 21,956 | | 277,366 | | | | 277,366 | 201,207 | 147,093 | 108,329 | 80,343 | 59,989 | 45,080 | 34,085 | 25,924 | 19,828 | 15,248 | 11,787 | 9,158 |
| 1 | 25,065 | 153,839 | 13,507 | 20,609 | | 213,020 | | | | 213,020 | 158,392 | 118,617 | 89,437 | 67,875 | 51,831 | 39,815 | 30,758 | 23,892 | 18,655 | 14,639 | 11,542 | 9,143 |
| | 104,681 | 129,695 | 12,534 | 18,732 | | 265,642 | | | | 265,642 | 202,457 | 155,315 | 119,896 | 93,106 | 72,714 | 57,098 | 45,069 | 35,752 | 28,497 | 22,818 | 18,352 | 14,822 |
| | 54,552 | 105,551 | 11,561 | 16,854 | | 188,518 | | | | 188,518 | 147,270 | 115,734 | 91,468 | 72,682 | 58,053 | 46,599 | 37,582 | 30,447 | 24,774 | 20,242 | 16,605 | 13,675 |
| | 25,065 | 108,520 | 10,588 | 15,496 | | 159,668 | | | | 159,668 [| 127,851 | 102,924 | 83,280 | 67,715 | 55,315 | 45,388 | 37,401 | 30,945 | 25,704 | 21,430 | 17,932 | 15,057 |
| - | 102,299 | 82,200 | 9,423 | 13,266 | | 207,188 | | | | 207,188 | 170,049 | 140,233 | 116,171 | 96,655 | 80,750 | 67,730 | 57,025 | 48,185 | 40,858 | 34,760 | 29,668 | 25,399 |
| - | 52,099 | 57,165 | 8,300 | 11,195 | | 128,760 | | | | 128,760 | 108,321 | 91,507 | 77,611 | 66,074 | 56,456 | 48,406 | 41,641 | 35,935 | 31,105 | 27,003 | 23,508 | 20,520 |
| | 23,394 | 58.436 | 7,218 | 069'6 | | 98,738 | | | | 98,738 | 85,142 | 73,680 | 63,979 | 55,735 | 48,705 | 42,687 | 37,520 | 33,067 | 29,219 | 25.884 | 22,984 | 20,456 |
| | 95,492 | 35,181 | 6,174 | 7,888 | | 144,736 | | | | 144,736 | 127,925 | 113,404 | 100,817 | 0/8'68 | 80,318 | 71,959 | 64,623 | 58,166 | 52,468 | 47,427 | 42,956 | 38,982 |
| | 68,080 | 8.725 | 3,446 | 4.051 | | 84,301 | | | | 84,301 | 76,373 | 69,355 | 63,125 | 57,579 | 52,629 | 48,200 | 44,227 | 40,655 | 37,436 | 34,530 | 31,900 | 29,516 |
| | 28,504 | 8,500 | 3,377 | 3,932 | | 44,313 | | | | 44,313 | 41,149 | 38,279 | 35,670 | 33,293 | 31,122 | 29,136 | 27,316 | 25,644 | 24,106 | 22,688 | 21,380 | 20,170 |
| | 18,574 | 4,140 | 1,654 | 1,865 | | 26,234 | | | | 26,234 | 24,970 | 23,795 | 22,701 | 21,681 | 20,728 | 19,837 | 19,002 | 18,218 | 17,482 | 16,790 | 15,138 | 15.523 |
| | 27,234 | 4.033 | 1,621 | 1,811 | | 34,699 | | | | 34,699 | 33,853 | 33.047 | 32,279 | 31,545 | 30,844 | 30,173 | 29,531 | 28,916 | 28,326 | 27,760 | 27,215 | 26,692 |
| | 17,748 | 0 | 0 | 0 | | 17,748 | | | | 17,748 | 17,748 | 17.748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 | 17,748 |
| | 26,024 | 0 | 0 | 0 | | 26,024 | | | | 26,024 | 26,675 | 27,326 | 27,976 | 28,627 | 29,277 | 29,928 | 30,579 | 31,229 | 31,880 | 32,530 | 33,181 | 33,832 |
| - | | r | Œ | 7 | | | 1 | | | | Γ | | | | r | _ | | ı— | | | | |
| | AT COST | | OTHER VARIABLE COST | ī | | TOTAL COST | | PRESENT VALUE | Rate of: | 0.00% | 2.30% | 5.00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% | 30.00% |
| | INVESTMENT COST | FUEL COST | THER VAL | FIXED COST | | TOTA | | PRESEN | @ Discount Rate of: |) | | | | | | | | | | | | |
| _1 | | | ب | 1 | , | ١ | ı | | | | | | | | | | | | | | | _ |

医

響

| | | | | | | _ | |
|-------|-----------|-----------|---------|-----------|--------|------------|--------|
| TOTAL | 2,970,695 | 7,151,792 | 606,765 | 1,020,247 | | 11,749,499 | |
| 2025 | 0 | 645,359 | 50,084 | 195'66 | | 795,005 | |
| 2024 | 46,136 | 623,289 | 45,801 | 900'16 | | 806,232 | |
| 2023 | 251,567 | 541,833 | 41,966 | 72,339 | | 307,705 | |
| 2022 | 201,008 | 565,082 | 40,602 | 68,478 | | 875,170 | |
| 2021 | 352,316 | 480,842 | 38,617 | 63,616 | | 935,392 | |
| 2020 | 146,947 | 480 132 | 37.157 | 62,482 | | 726,718 | |
| 2019 | 194.557 | 415.065 | 34 238 | 57.202 | | 701,062 | |
| 2018 | 63.030 | 414.355 | 37 778 | 56.058 | | 566,231 | |
| 2017 | 177.479 | 349 287 | 29 850 | 50.788 | | 607.413 | |
| 2016 | 815 00 | 324 437 | 77.426 | 47.776 | | 492,153 | |
| 2015 | 136.017 | 201 900 | 25 066 | 45 136 | 22452 | 499.014 | |
| 2014 | 77 087 | 350 366 | 705 % | 42 496 | 100 | 399 350 | 2222 |
| 2013 | 15.604 | 220 007 | 21,602 | 35.757 | 40,100 | 311 045 | 211012 |
| 2012 | 20 405 | 215.647 | 2000 | 70.039 | 2/207 | 343 370 | 200 |

Financial

| | | | | | | | | | | | | | | _ | | | |
|------------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 11,749,499 | 7172760 | | 4,566,997 | 3,033,388 | 2.100.209 | 1 512 370 | 677.010.1 | 1,131,758 | 370 270 | 00,0,0 | 698,937 | 573,073 | 401 120 | 401,130 | 412,345 | 350 731 | 337,12 |
| 795,005 | 388 488 | | 193,143 | 97.617 | 50.117 | 011.70 | 20,110 | 13.808 | 7 101 | 7 | 4,019 | 2210 | 1 220 | 7.7 | 693 | 204 | , |
| 806,232 | ACS 504 | | 205,665 | 106,420 | 25,907 | 000000 | 02/32 | 16,104 | 0.010 | 0,017 | 4,891 | 2.746 | 922 | 1.737 | 968 | 96.3 | 3 |
| 907,705 | AKK 015 | 200 | 243,127 | 128.800 | 60 738 | 200 | 37,742 | 20,850 | 11 666 | 1,000 | 6,608 | 3,787 | | 2,153 | 1.286 | 17. | 707 |
| 875,170 | 373 674 | | 246,133 | 133,497 | 73 432 | | 40,538 | 23,118 | ,,,,,, | 15,210 | 7.645 | 4.473 | | 7040 | 1.581 | į | ¥. |
| 935.392 | 200 | 5 | 276,224 | 153 385 | 86 333 | 200 | 49,224 | 28.415 | 000 | 0,030 | 9,805 | 5.856 | | 4 | 2.154 | | 075 |
| 726.718 | 101 705 | (C) 10% | 225,332 | 128 104 | 72.791 | 10, 6, | 43,023 | 25.387 | 37, | 15.152 | 9.141 | 5 573 | | 5.43 | 2134 | | 1,335 |
| 701.062 | 900 | 357,420 | 228.246 | 132 850 | 70 202 | (0,07) | 46,693 | 28:165 | | 17.175 | 10.582 | × 586 | | 4.138 | 2.624 | | 1.679 |
| 156 331 | | 346,900 | 193.566 | 115 247 | 20 5 6 5 | 65,550 | 42.427 | 25 160 | | 16.299 | 10257 | 712 | 2 | 4.178 | 2.703 | | 1.763 |
| 607 413 | | 50,00 | 218 (726 | 133.017 | 000 | 05,000 | 51.201 | 27,777 | , | 20.544 | 13 203 | 2 563 | 200 | 2.602 | 3,696 | | 2.459 |
| 100 153 | 200 | 500.54 | 185 487 | 115 250 | 2000 | 3,133 | 46.671 | 10.05 | 2 | 19.559 | 17.837 | 00,0 | 0,777 | 5.674 | 3,810 | | 258 |
| 700 007 | ,,,,, | 312.147 | 107 477 | 200 301 | 200 | 56,18 | 53 237 | 35 063 | 23.55 | 23.302 | 15.620 | 10.557 | 10,01 | 7.07 | A 036 | | 3.413 |
| 300 350 | 227,20 | 256.050 | 165 038 | 100,413 | 220001 | /187/ | 47.930 | 32 220 | 7,4 | 21 912 | 15.000 | 2000 | 1 | 7107 | 5037 | 3 | 3.551 |
| 211 046 | 21.00 | 204.417 | 125 709 | 30,000 | 302.7 | 6.539 | 41 008 | 20000 | 3,07 | 20063 | 14 000 | 14,020 | 100 | 7007 | 000 | 7700 | 20,00 |
| 242 230 | 343,570 | 23.30 | 25.7.28 | 102.00 | 10/101 | 74,727 | 52158 | 10000 | 20,074 | 26.03.1 | CL 2 0 | 2000 | ccc | 2750 | 2000 | } | 5 160 |

Table 9.4.10 HIGH CASE II-2 (ECONOMIC)

| OST | |
|-----|--|
| ALC | |
| TOI | |

| Economic | | | |
|-----------------|---|----|--|
| Есопот | l | Ü | |
| Scone | į | Έ | |
| ä | ı | ĕ | |
| ш | i | Ž, | |
| | l | w | |
| | | | |

| | I3 | _ | | | | | | T . | I | · . 1 | _ | | _ | | _ | | | _1 | 1 |
|-------------|----------------|-----------|----------------------|------------|------------|---------------|---------------------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2011 | 148,558 | 180,290 | 11,088 | 8.543 | 348,479 | - | 348 479 | 240,613 | 167,625 | 117,774 | 83,423 | 59,551 | 42,826 | 31.018 | 22,618 | 16,601 | 12 261 | 9,110 | 6,808 |
| 2010 | 201,378 | 153,178 | 10,067 | 7,347 | 371,970 | | 371 970 | 263,253 | 187,870 | 135,142 | 97,951 | 115,17 | 52,570 | 38,903 | 28,971 | 21,707 | 16,359 | 12,398 | 9,447 |
| 2003 | 82,464 | 126,967 | 9,045 | 6,151 | 223,727 | | 723 727 | 162 296 | 118,647 | 87,379 | 64,806 | 48,388 | 36,362 | 27,493 | 20,910 | 15,994 | 12,300 | 9,508 | 7,387 |
| 2008 | 22,950 | 128,541 | 8,364 | 7,038 | 166,894 | | 166 894 | 124,095 | 92,933 | 70,071 | 53,177 | 40,608 | 31,194 | 24,098 | 18,718 | 14,615 | 11,469 | 9,043 | 7,163 |
| 2007 | 95.851 | 108.421 | 7,682 | 6,071 | 218,026 | | 218 076 | 166,168 | 127,475 | 98,405 | 76,417 | 59,680 | 46,863 | 36,991 | 29,344 | 23,389 | 18,728 | 15,062 | 12,166 |
| 2006 | 49.951 | 88,301 | 7,001 | 5.19 | 150,357 | | 150 357 | 117,459 | 92,306 | 72,952 | 57,969 | 46,302 | 37,166 | 29,974 | 24,284 | 19,759 | 16,144 | 13,244 | 10,907 |
| 2005 | 22.950 | 90.776 | 6.320 | 5,949 | 125,995 | | 175 005 | 100.888 | 81.218 | 65,717 | 53,434 | 43,650 | 35,816 | 29,513 | 24,419 | 20,283 | 16,911 | 14,150 | 11,881 |
| 2004 | 93.670 | 68.834 | 5.527 | 4.858 | 172,888 | | 177 888 | 141.897 | 117,017 | 96,939 | 80,654 | 67,382 | 56,517 | 47,584 | 40,208 | 34,094 | 29,006 | 24,756 | 21,194 |
| 2003 | 47.705 | 47.963 | 4.762 | 3,847 | 104,277 | | 104 277 | 87.724 | 74,108 | 62,853 | 53,511 | 45,721 | 39,202 | 33,723 | 29,102 | 25,190 | 21,868 | 19,038 | 16,618 |
| 2002 | 21.421 | 49.014 | 4.025 | 4,450 | 78,911 | | 78 011 | 68.044 | 58.884 | 51,131 | 44,543 | 38,924 | 34,115 | 29,985 | 26,427 | 23,352 | 20,686 | 18,369 | 16,348 |
| 2001 | 87.438 | 29,626 | 3,316 | 3.538 | 123,918 | | 173 019 | 109 525 | 97.093 | 86,316 | 76,943 | 68,765 | 61,609 | 55,328 | 49,800 | 44,921 | 40,605 | 36,777 | 33,375 |
| 2000 | 62 337 | 7 471 | 1.755 | 1.754 | 1 1 | | 72 210 | 66 422 | 60.319 | 54,900 | 50,077 | 45.772 | 41,920 | 38,464 | 35,358 | 32.558 | 30,031 | 27,744 | 25,671 |
| 1999 | 26 100 | | | 1.703 | 36.801 | | 26 901 | 34 173 | 31,790 | 29.623 | 27.649 | 25,846 | 24,197 | 22,685 | 21.297 | 20.019 | 18,842 | 17.755 | 16,751 |
| 8661 | 17.00R | 3 545 | 843 | 808 | 22,203 | | 200000 | 21 133 | 20.139 | 19.213 | 18,350 | 17,543 | 16,789 | 16,082 | 15.419 | 14.796 | 14,210 | 13,658 | 13,138 |
| 1997 | 74 937 | 3.454 | 828 | 184 | 30,001 | | 100.00 | 20,260 | 28.572 | 27.908 | 27.273 | 26.667 | 26.088 | 25.532 | 25.001 | 24.490 | 24,001 | 23.530 | 23,077 |
| 1996 | 16.251 | c | , c | 0 | 16,251 | | 12.76 | 16.201 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 | 16,251 | 16.251 | 16,251 |
| 1995 | 73 870 | | | | 23,829 | | 0,00 | 24 475 | 25.021 | 25.616 | 26.212 | 26.808 | 27.404 | 27,999 | 28.595 | 29.191 | 29.786 | 30,382 | 30,978 |
| | Į. | | L | | | UE | | 250% | 5 00% | 7.50% | 10.00% | 12.50% | 15.00% | 17.50% | 2000% | 50% | 25.00% | 27.50% | 30.00% |
| | NVECTMENT COCT | Fire Coer | OTHER VARIARI F COST | FIXED COST | TOTAL COST | PRESENT VALUE | @ Discount Rate of: | 7,0 | 2 | | ١ | 12. | 15. | 12. | 3 | 22, | 25. | 27. | 30. |





學

| = |
|-----|
| |
| (1) |
| 88 |
| o. |
| |
| ~. |
| r) |
| _ |
| *** |
| - |
| |
| G |
| Ξ. |
| |
| |
| |
| |
| |

Есспотіс

| 57,713 178,146 134,552 322,599 184,055 220,347 42,244 348,144 348,796 402,550 473,656 455,515 524,534 22,771 23,743 25,787 26,809 28,562 29,951 33,433 20,728 20,910 23,301 23,484 25,848 28,247 36,479 449,306 571,535 586,599 776,441 712,099 744,060 636,690 260,986 323,888 324,316 418,805 374,731 382,000 318,904 153,595 186,076 181,885 229,285 200,271 199,295 162,416 91,529 108,305 103,492 23,586 31,4731 382,000 318,904 153,595 186,076 181,885 229,285 200,271 199,295 162,416 20,758 22,866 38,066 34,728 40,860 35,310 30,338 23,532 21,733 14,001 12,230 13,777 10,774 | | 2012 | 2013 | 2014 | 2012 | 20102 | /107 | 2010 | ì | | | | | | | |
|--|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|
| 180,882 199,082 14,521 16,931 17,187 18,336 22,721 23,743 25,787 26,899 28,562 29,551 33,433 COST 12,110 14,521 16,931 17,953 18,975 20,678 22,721 23,743 25,787 26,899 28,562 29,951 33,433 S.725 11,897 14,795 15,991 17,187 18,336 20,728 20,910 23,301 23,484 25,848 28,247 36,479 S.725 12,110 14,521 16,931 17,187 18,336 20,728 20,910 23,301 23,484 25,848 28,247 36,479 S.725 240,640 317,539 404,582 394,085 499,306 571,535 586,599 776,441 712,099 744,060 636,690 S.725 240,640 317,539 404,582 394,085 499,306 571,535 586,599 776,441 712,099 744,060 636,690 S.725 12,174 138,147 203,595 23,4777 240,499 249,81 260,986 323,888 324,316 418,805 374,731 382,000 318,904 S.725 23,475 104,990 131,944 160,107 148,526 177,836 153,595 108,40 | | 000 | 0007. | 700 77 | 025 761 | 24 714 | 162 500 | 57.713 | 178.146 | 134.552 | 322.599 | 184,053 | 230,347 | 42,244 | 0 | 2,720,117 |
| 180,882 199,934 218,538 24,028 24,027 24,028 22,010 23,010 23,301 25,848 28,247 36,479 274,505 240,640 317,539 404,582 394,085 449,306 571,535 586,599 776,441 712,099 744,060 636,690 28,301 224,505 240,640 317,539 404,582 394,085 395,444 449,306 571,535 586,599 776,441 712,099 744,060 636,690 28,301 15,8147 203,599 253,077 240,499 294,981 260,986 323,888 324,316 418,885 374,731 382,200 318,894 31,539 41,150 | ENT COS! | 75,185 | 14,230 | 070,00 | 2000 | 500 | 100 000 | 200 177 | 370 726 | 050 007 | 403 550 | 473 636 | 455.515 | 524.534 | 544,178 | 6,007,044 |
| COST 12.110 14.521 16.931 17.933 18.975 20.038 25.143 25.348 25.243 25.247 36.479 8.725 11.897 14,795 15.991 17.187 18.336 20.728 20.910 23.484 25.348 25.247 36.479 274.505 240.640 317.539 404.582 394.085 495.444 449.306 571.535 586.599 776.441 712.099 744.060 636.690 D7 274.505 240.640 317.539 404.582 394.085 495.344 449.306 571.535 586.599 776.441 712.099 744.060 636.690 D7 274.505 28.478 26.986 324.986 324.316 418.805 374.711 189.249 374.316 571.535 586.599 776.441 712.099 744.060 636.690 D7 274.505 28.477 240.499 294.981 260.986 324.316 418.805 374.717 192.295 286.609 776.441 <td>T</td> <td>180,882</td> <td>199,934</td> <td>218,987</td> <td>240,098</td> <td>2/3/210</td> <td>177777</td> <td>1</td> <td>200</td> <td>20 20</td> <td>000 90</td> <td>CAS SC</td> <td>20 951</td> <td>33 433</td> <td>36 866</td> <td>411.379</td> | T | 180,882 | 199,934 | 218,987 | 240,098 | 2/3/210 | 177777 | 1 | 200 | 20 20 | 000 90 | CAS SC | 20 951 | 33 433 | 36 866 | 411.379 |
| 87725 11,897 14,795 15,991 17,187 18,336 20,910 23,301 23,484 22,844 22,844 23,484 22,844 22,844 22,844 22,844 449,306 571,535 586,599 776,441 712,099 744,060 636,690 Dr 274,505 240,640 317,539 404,582 394,085 495,444 449,306 571,535 586,599 776,441 712,099 744,060 636,690 Dr 274,505 240,640 317,539 404,582 394,085 493,06 571,535 586,599 776,441 712,099 744,060 636,690 Dr 274,505 240,499 294,481 260,986 323,388 324,315 382,200 318,904 Dr 36,314 131,944 160,107 148,526 188,007 188,235 176,441 712,099 744,060 636,690 Dr 31,104 31,104 31,104 31,104 31,104 31,106 31,106 31,106 31,10 | ARIARI F COST | 12.110 | 14.521 | 16,931 | 17,953 | 18,975 | 20,678 | 77,77 | 23,743 | 1970 | 60,00 | 20,02 | | 200 | 20.00 | 273 676 |
| DTA, SOS 240,640 317,539 404,582 394,085 499,306 571,535 586,599 776,441 712,099 744,060 636,690 DTA, SOS 224,505 224,640 317,539 404,582 394,085 499,306 571,535 586,599 776,441 712,099 744,060 636,690 DTA, SOS 274,505 240,640 317,539 404,582 394,085 499,306 571,535 586,599 776,441 712,099 744,060 636,690 DTA, SOS 274,505 240,493 260,986 373,315 324,316 374,713 382,000 374,150 374,171 382,000 374,150 374,171 382,000 374,150 374,150 374,110 374,150 374,110 374,150 374,110 374,110 374,150 37,171 374,150 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,171 37,1 | TS | 8.725 | 11.897 | 14,795 | 15,991 | 17,187 | 18,336 | 20,728 | 20,910 | 23,301 | 23,484 | 25,848 | 28,247 | 30,479 | 39,734 | 770'676 |
| DR 274,505 240,640 317,539 404,582 394,085 499,306 571,535 586,599 776,441 712,099 744,060 636,690 DR 274,505 240,640 317,539 404,582 394,085 499,306 571,535 586,599 776,441 712,099 744,060 636,690 DR 125,754 104,990 131,944 160,107 148,236 177,336 188,675 188,075 188,805 374,713 382,000 318,904 DR 86,301 70,376 26,152 58,498 153,555 188,075 188,205 118,904 197,470 198,494 198,404 | | | | | | | | | | | | | | 30, 50, | 1 000 000 | 07.0.70 |
| DTS 274,505 240,640 317,539 404,582 394,085 495,306 571,535 586,599 776,441 712,099 744,060 636,690 D7 274,505 240,640 317,539 404,582 323,388 324,316 418,805 374,731 382,000 318,904 D7 125,754 104,990 131,944 160,107 148,526 177,836 153,595 186,076 181,885 229,285 210,271 189,295 162,416 D7 86,301 70,376 86,182 89,2773 108,497 91,529 108,305 108,495 108,404 D7 86,301 70,376 86,182 89,575 108,305 108,405 107,404 107,704 108,404 D7 86,301 70,376 86,182 89,575 11,605 31,705 108,404 107,704 107,704 107,704 107,704 107,704 107,704 107,704 107,704 107,704 107,704 107,704 107,704 107,704 | AI COST | 274.505 | 240,640 | 317,539 | 404,582 | 394 085 | 495,444 | 449,306 | 571,535 | 586,599 | 776.441 | 712,099 | 744,060 | 636,690 | 620,798 | 9217,108 |
| 0% 274,505 240,640 317,539 404,582 394,085 495,344 449,306 571,535 \$86,599 776,441 712,099 744,060 636,690 0% 124,514 158,147 202,585 223,077 240,489 254,386 323,888 324,316 418,805 374,731 382,000 318,904 0% 125,734 104,990 121,824 157,986 153,986 153,885 229,285 210,271 199,295 162,416 0% 10,274 10,490 171,834 160,107 148,526 177,839 186,207 181,885 229,285 210,271 199,295 162,416 0% 53,740 77,627 86,136 177,831 186,280 55,555 71,662 39,749 56,755 44,150 0% 20,335 22,669 24,075 12,933 14,001 12,290 39,749 56,755 44,150 0% 20,734 13,882 16,250 25,135 12,366 38,756 | NT VALUE | | | | | | | | | | | | | | | |
| 07% 274,505 240,640 317,539 404,582 394,085 493,06 571,535 586,599 776,441 712,099 744,060 580,090 07% 184,914 158,147 202,595 253,077 240,499 294,981 260,986 323,888 324,316 418,805 374,731 382,000 318,904 07% 185,147 202,595 253,077 240,499 19,529 186,076 181,885 200,221 190,2395 162,416 07% 86,301 70,376 86,182 103,404 177,220 108,623 105,279 34,041 07% 86,301 70,376 86,182 108,497 91,529 108,407 103,404 177,220 108,623 105,279 34,041 07% 41,602 55,146 56,152 28,478 66,956 38,066 34,728 40,860 35,177 10,794 17,771 07% 25,346 17,62 28,748 56,152 22,961 20,492 23,749 | T Pate of | | | | | | | | | | | | | | 1 200 000 | 02.00 |
| 184,914 158,147 203,595 253,007 240,981 260,986 323,888 324,316 418,805 374,731 382,000 318,904 125,734 164,990 131,845 177,836 153,595 186,076 181,885 229,285 200,271 199,295 162,416 86,301 70,376 36,386 102,387 92,773 108,497 91,529 108,407 108,603 105,775 108,401 86,301 70,376 36,136 37,112 66,132 38,518 66,986 38,518 63,828 37,28 108,403 108,403 108,401 29,740 47,609 37,112 66,132 38,518 40,866 34,728 40,860 33,310 30,338 23,532 40,4150 29,335 22,467 26,497 26,323 20,758 22,961 20,492 22,586 18,810 17,091 12,717 20,734 15,14 17,423 18,892 15,661 16,757 12,933 14,901 12,339 | Nat. 2 | 202 420 | | 217 520 | 404 582 | 304 085 | 495 644 | 449.306 | 571.535 | 586.599 | 776,441 | 712,099 | 744,060 | 636,690 | 620,798 | 9,512,108 |
| 184,974 138,147 203,259 253,077 240,486 157,564 104,990 131,944 100,107 240,379 127,275 186,075 279,285 279,285 200,271 199,259 162,416 1 81,376 104,990 131,944 100,107 148,256 173,259 108,305 108,407 107,299 108,305 108,579 34041 81,370 47,609 57,112 66,152 58,788 66,950 55,195 63,828 59,555 71,662 59,749 56,755 44,150 41,638 32,492 38,111 43,163 37,371 41,763 33,666 38,066 34,778 40,860 35,310 30,938 23,522 29,355 22,659 22,861 20,492 23,586 18,817 12,777 17,777 17,791 17,791 17,791 17,791 17,791 17,791 17,791 17,791 17,791 17,791 17,792 17,792 17,792 17,792 17,792 17,792 17,792 | 0.00% | COC-6/7 | 1 | 200,000 | 250 077 | 007 070 | 100 000 | 340 086 | 273 888 | 174 316 | 418 805 | 374.73 | 382,000 | 318,904 | 303,360 | 5,815,838 |
| 15.754 104.990 131.944 104.107 148.526 177.535 103.535 103.535 103.625 103.625 105.625 34.041 84.150 108.623 105.679 84.041 84.150 108.623 105.757 84.041 84.150 108.623 105.757 84.041 84.150 108.623 105.757 84.041 84.150 108.623 105.757 84.010 86.755 44.150 108.623 105.757 44.150 108.623 105.757 108.625 108.623 105.757 108.625 108.675 108.625 108.675 108.66 108.675 108.66 38.066 38.066 38.066 38.066 38.066 38.066 38.066 38.066 38.066 38.066 38.067 <th< td=""><td>2.50%</td><td>184,914</td><td>138,147</td><td>45,575</td><td>170,000</td><td>200,000</td><td>457,757</td><td>207</td><td>707 701</td><td>200 101</td><td>286 066</td><td>120 000</td><td>100 705</td><td>162 416</td><td>150.821</td><td>3,710,069</td></th<> | 2.50% | 184,914 | 138,147 | 45,575 | 170,000 | 200,000 | 457,757 | 207 | 707 701 | 200 101 | 286 066 | 120 000 | 100 705 | 162 416 | 150.821 | 3,710,069 |
| 86,301 70,376 86,386 102,387 92,773 108,497 102,394 102,327 102,324 103,344 102,127 103,344 103,4150 <td>5.00%</td> <td>125,754</td> <td>104,990</td> <td>131,944</td> <td>190,107</td> <td>48,520</td> <td>000//1</td> <td>22.2</td> <td>100.001</td> <td>200</td> <td>27, 77,</td> <td>202 001</td> <td>105 570</td> <td>94 041</td> <td>76 276</td> <td>2 469 938</td> | 5.00% | 125,754 | 104,990 | 131,944 | 190,107 | 48,520 | 000//1 | 22.2 | 100.001 | 200 | 27, 77, | 202 001 | 105 570 | 94 041 | 76 276 | 2 469 938 |
| 59,740 47,609 57,112 66,152 58,578 66,950 55,195 63,828 59,555 71,062 57,149 30,735 44,120 41,698 32,492 38,111 43,163 37,371 41,763 35,666 38,066 34,728 40,860 35,310 30,938 23,532 29,335 22,362 25,659 28,428 24,679 26,323 20,796 22,961 22,586 18,810 17,77 20,794 15,514 17,423 18,892 15,661 16,757 12,993 13,77 10,754 9,563 6,964 14,847 10,846 11,927 10,769 8,139 8,627 5,416 3,862 10,675 5,819 6,806 6,985 5,171 5,369 4,499 4,861 3,639 3,104 2,168 1,727 3,717 2,770 2,933 2,152 1,799 1,232 2,638 3,870 4,002 3,015 2,144 2,139 1 | 7.50% | 86,301 | 70,376 | 86,386 | 102,387 | 92,773 | 108,497 | 71.527 | 505.801 | 10.5.4 | 141.320 | 20.001 | 2027 | 95 | 30 835 | C18 L17 1 |
| 41,698 32,492 38,111 43,163 37,371 41,763 33,666 38,066 34,728 40,860 33,310 30,938 25,524 29,335 22,362 25,659 28,428 24,079 26,323 20,756 22,961 20,492 23,586 18,810 17,091 12,177 20,735 22,562 28,659 16,757 12,933 14,001 12,230 13,77 10,759 9,563 6,964 14,847 10,846 11,927 10,769 8,139 8,139 8,139 6,271 3,179 6,216 2,168 10,675 7,639 8,229 6,806 6,885 5,171 5,369 4,499 4,861 3,639 3,104 2,168 5,628 3,870 4,002 3,615 2,144 2,139 1,722 1,786 1,054 707 5,628 3,870 4,002 3,015 2,144 2,139 1,722 1,786 1,054 707 | %(X) () I | 59.740 | 47.609 | 57,112 | 66,152 | 58,578 | 66,950 | 55,195 | 63,828 | 59,555 | 71.002 | 39.749 | 28,733 | 1,130 | 200.00 | 1,717,012 |
| 29,335 22,362 25,659 28,428 24,079 26,323 20,758 22,961 20,492 23,586 18,810 17,091 12,717 20,734 15,514 17,423 18,892 15,661 16,757 12,933 14,001 12,220 13,777 10,744 9,563 6,984 14,847 10,846 11,927 10,769 8,139 6,221 3,134 2,139 6,221 3,862 10,675 7,639 8,139 6,221 3,139 6,221 3,104 2,168 10,675 7,639 8,8229 4,806 6,885 5,171 5,369 4,499 4,861 3,639 3,104 2,168 10,675 3,870 4,002 8,831 4,574 4,570 3,314 2,770 2,933 2,152 1,799 1,232 5,628 3,870 4,002 4,002 3,015 2,144 2,139 1,722 1,788 1,054 777 | 12 50% | 41 698 | 32 492 | 38 111 | 43.163 | 37.371 | 41,763 | 33,666 | 38,066 | 34 728 | 40.860 | 33,310 | 30.938 | 25,532 | 24,35 | 209,402 |
| 20.794 15.514 17.423 18.892 15.661 16,757 12,933 14,001 12,230 13,777 10,754 9,563 14,847 10,846 11,927 12,664 10,279 10,769 8,139 8,627 7,379 8,139 6,221 5,416 10,675 7,639 8,229 8,559 6,806 6,985 5,171 5,369 4,499 4,861 3,639 3,104 7,727 5,419 5,720 5,831 4,543 4,570 3,315 2,770 2,933 2,152 1,799 5,628 3,870 4,002 3,058 3,015 2,184 2,139 1,722 1,788 1,286 1,054 | 15.00% | 20.335 | 22 362 | 25,659 | 28.428 | 24.079 | 26,323 | 20,758 | 22,961 | 20,492 | 23.586 | 18.810 | 17,091 | 12,717 | 10,782 | 2/7/066 |
| 10,675 7,639 8,229 8,529 6,806 6,985 5,171 5,369 4,499 4,861 3,639 3,104 7,727 5,419 5,726 5,831 4,543 4,570 3,315 3,374 2,770 2,933 2,152 1,799 5,628 3,870 4,005 4,002 3,015 2,144 2,139 1,722 1,786 1,034 | 2000 | 702.00 | 1551 | 17 423 | 18 807 | 15 661 | 16,757 | 12,933 | 14,001 | 12,230 | 13.777 | 10,754 | 9,563 | 6,964 | 5,779 | /77.00/ |
| 15,075 7,059 8,229 8,559 6,806 6,985 5,171 5,369 4,499 4,861 3,639 3,104 1,727 5,419 5,726 5,831 4,543 4,570 3,315 3,374 2,770 2,933 2,152 1,799 5,638 3,870 4,002 3,058 3,015 2,144 2,139 1,722 1,788 1,286 1,054 | 20.00 | 7.40 K | 778 01 | 1,027 | 12 664 | 10.279 | 10,769 | 8.139 | 8,527 | 7.379 | 8,139 | 6,221 | 5,416 | 3,862 | 3,138 | 578,976 |
| 10,073 7,057 9,227 0,227 0,237 4,570 3,315 3,374 2,770 2,933 2,152 1,799 1 5,628 3,870 4,005 4,002 3,088 3,015 2,144 2,139 1,722 1,788 1,286 1,054 | 20.00% | 100 | 1000 | 0 220 | 0 550 | 208.9 | 6 085 | 5 171 | 5 369 | 4.499 | 4.861 | 3,639 | 3,104 | 2,168 | 1.726 | 476,640 |
| 5,628 3,870 4,005 4,002 3,058 3,015 2,144 2,139 1,722 1,788 1,286 1,054 | 27.30% | 10,072 | 2007 | 2770 | 500.5 | 4 543 | 4 570 | 3315 | 3 374 | 2.770 | 2.933 | 2,152 | 1,799 | 1,232 | 961 | 401,804 |
| 5,626 5,3670 6,004 5,004 5,005 5,006 | 25.UU% | 17/7/ | 7 4.0 | 2,720 | 1,000 | 2 050 | 2015 | 2 144 | 2 130 | 1 772 | 1,788 | 1.286 | 1.054 | 707 | 541 | 345,738 |
| 17. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10 | 27.50% | 2,028 | 0/2.5 | 3,000 | 4,004 | 3,030 | 2000 | 18 | 075 | 190 | 100 | 77.6 | 624 | 411 | 308 | 302,805 |

Table 9.4.11 HIGH CASE III-2 (FINANCIAL)

Financial

TOTAL COST

| 2011 | 31,515 | 176,723 | 38,007 | 43,728 | 289,973 | Financia | 200 000 | 5/6/697 | 200,216 | 139,482 | 100,86 | 69,417 | 49,553 | 35,636 | 25,810 | 18,821 | 13,814 | 10,203 | 7,581 | 5,665 |
|------|--------------------|------------|---------------------|------------|------------|---------------|---|----------|---------|---------|---------|--------|--------|--------|---------|--------|--------|--------|--------|--------|
| 2010 | 136,012 | 144,190 | 36,547 | 41,088 | 357,836 | | 700 230 | 0,0,70 | 253,250 | 180,732 | 130,007 | 94,229 | 68,794 | 50,573 | 37,424 | 27,871 | 20,882 | 15,738 | 11.927 | 880'6 |
| 2009 | 72,982 | 111,656 | 35,087 | 38,447 | 258,173 | | 250 | C/ 1.0C7 | 187,284 | 136,915 | 100,832 | 74,783 | 828'55 | 41,960 | 31,726 | 24,130 | 18,456 | 14,193 | 10,972 | 8.524 |
| 2008 | 25,065 | 114,625 | 34,114 | 37,101 | 210,905 | | 2000 | CUX-U12 | 156,819 | 117,440 | 88,549 | 67,201 | 51,316 | 39,420 | 30,453 | 23,654 | 18,469 | 14,493 | 11,428 | 9,052 |
| 2007 | 104,681 | 90,481 | 33,141 | 35,224 | 263,527 | | 200 | 775,507 | 200,846 | 154,079 | 118,941 | 92,365 | 72,135 | 56,643 | 44,710 | 35,468 | 28,270 | 22,637 | 18,206 | 14,704 |
| 2006 | 54,552 | 66,337 | 32,168 | 33,346 | 186,403 | | 104 201 | 100,403 | 145,618 | 114,435 | 90,442 | 71,867 | 57,402 | 46,076 | 37,160 | 30,105 | 24,496 | 20,015 | 16,419 | 13,521 |
| 2005 | 35,631 | 57,767 | 27,760 | 28,737 | 149,895 | | 340 005 | 149.093 | 120,025 | 95,623 | 78,183 | 63,570 | 51,929 | 42,609 | 35,111 | 29,051 | 24,130 | 20,119 | 16,834 | 14,135 |
| 2004 | 87,050 | 47,927 | 22,885 | 23,524 | 181,386 | | 200, 101 | 10,300 | 148,872 | 122,769 | 101,703 | 84,618 | 70,694 | 59,295 | 49,923 | 42,185 | 35,770 | 30,432 | 25,973 | 22,236 |
| 2003 | 85,072 | 38,557 | 18,193 | 18,687 | 160,510 | | 0.2 | 100,010 | 135,031 | 114,071 | 96,748 | 82,367 | 70,377 | 60,342 | 51,908 | 44,795 | 38,775 | 33,661 | 29,304 | 25,580 |
| 2002 | 83,142 | 29,638 | 13,681 | 14,205 | 140,665 | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 140,000 | 121,295 | 104,967 | 91,146 | 79,402 | 69.386 | 60,814 | 53,452 | 47,109 | 41,627 | 36,875 | 32,744 | 29,143 |
| 2001 | 81.258 | 21.153 | 9,341 | 10,056 | 121,808 | | | 121,808 | 107,661 | 95,440 | 84,846 | 75,633 | 67.595 | 60,560 | 54.386 | 48.952 | 44.157 | 39.914 | 36,151 | 32,806 |
| 2000 | 98.862 | 8.725 | 3,446 | 4,051 | 115,084 | | | 115,084 | 104,260 | 94,680 | 86,175 | 78.604 | 71.846 | 65.769 | 60.376 | 55,499 | 51.106 | 47.138 | 43.548 | 40.294 |
| 1999 | 75.080 | 8.500 | 3.377 | 3,932 | 688'06 | | | 90,889 | 84,399 | 78.513 | 73.162 | 68.286 | 63.834 | 59.761 | 56.027 | 52.598 | 49.443 | 46,535 | 43.851 | 41,370 |
| 1998 | 18.574 | 4 140 | 1.654 | 3.865 | 26,234 | | | 26,234 | 24,970 | 23.795 | 22.701 | 21.681 | 20,728 | 19.837 | 19,002 | 18.218 | 17.482 | 16.790 | 16,138 | 15,523 |
| 1997 | 27.234 | 4.033 | 1,621 | 1,811 | 34,699 | | | 34,699 | 33,853 | 33.047 | 32.279 | 31 545 | 30.844 | 30.173 | 29.531 | 28.916 | 28 326 | 27.760 | 27.215 | 25,692 |
| 9661 | 17 748 | c | c | 0 | 17,748 | · Committee | | 17,748 | 17.748 | 17.748 | 17.748 | 17.748 | 17.748 | 17.748 | 17.748 | 17,748 | 17.748 | 17.748 | 17,748 | 17.748 |
| 1995 | 26.024 | c |) C | 0 | 26,024 | Financial | | 26,024 | 26.675 | 27 326 | 27,976 | 78 627 | 776 96 | 29 928 | 30 579 | 31 229 | 31 880 | 32,530 | 33,181 | 33.832 |
| | INVESTIBILITY COST | FILET COST | OTHER VARIABLE COST | FIXED COST | TOTAL COST | PRESENT VALUE | @ Discount Rate of: | 0.00% | 2.50% | \$ 00% | 7 50% | 10.00% | 12 50% | 20051 | 17 5002 | 20000 | 22 50% | 25 00% | 27 50% | 3000% |

High Case 111-2

Financial

| | | | | | 1 | ر د ا | | | _ | 1 | Ţ | 1 | | Г | 1 | Т | - | 7 | | | | i | Γ- |
|-------|-----------|-----------------|-----------|---------------------|------------|------------------|------|---------------|---------------------|----------|-----------|-----------|-----------|-----------|-----------|--------|-----------|---------|---------|---------|---------|---------|---------|
| TOTAL | 2,993,769 | 6,350,912 | 1,051,132 | 1.298.560 | | 11,694,373 | | | 11 604 377 | 7.00 | / 141.9/4 | 4,556,924 | 3.038.944 | 2,116,774 | 1 527 177 | 27,12 | 1,160,245 | 906,968 | 731,266 | 229'509 | 513,366 | 443,781 | 390,110 |
| 2025 | 0 | 691,467 | 73,124 | 111,303 | | 875,895 | | | 875 805 | 520,570 | 428,016 | 212,795 | 107.549 | 91655 | 377.00 | 0//07 | 15,213 | 8,154 | 4,428 | 2,435 | 1355 | 763 | 435 |
| 2024 | 85,576 | 198'965 | 898'49 | 100 466 | | 850,771 | | | 050 771 | 27,000 | 425,132 | 217,026 | 112 299 | 58 005 | 21,444 | 71,444 | 16,993 | 90306 | 5,161 | 2.897 | 1.646 | 945 | 549 |
| 2023 | 115,555 | 547,939 | 65,492 | 587 20 | | 822,470 | | | 027 720 | 074,270 | 422.256 | 220 297 | 116 706 | 357.03 | 24.450 | 82.158 | 18,892 | 10,571 | 5.987 | 3.431 | 1 989 | 1.165 | 8 |
| 2022 | 169,493 | \$25,869 | 61.209 | 84 969 | 200 | 841,540 | | | 041 540 | \$1.740 | 442,848 | 236,675 | 128 367 | 70.610 | 2000 | 39,365 | 22,230 | 12,708 | 7.351 | 4.301 | 2 543 | 1.520 | 210 |
| 2021 | 326.453 | 452.803 | 57.860 | 76.004 | 10000 | 913,120 | | | 000 | 21.5.120 | 492,528 | 269,647 | 140 733 | 27.0 | 7 7 6 | 48,052 | 27,738 | 16.202 | 9.572 | 5.716 | 3.450 | 2 103 | 1 204 |
| 2020 | 236,393 | 398 910 | 53 577 | 65 087 | 00,1704 | 754,861 | | | .,0 | 124,861 | 417344 | 234.05B | 123 065 | 22.630 | /0,036 | 44,690 | 26.371 | 15.738 | 9 495 | 5 789 | 3 565 | 2216 | 1 301 |
| 2019 | 179 122 | 308 200 | 52 117 | 270 77 | 04040 | 694,487 | | | | 694,487 | 393,564 | 201 74 | 121 607 | 737.00 | (CC) | 46,255 | 27.901 | 17.013 | 10.483 | PC > 9 | 100 | 2,600 | 277 |
| 2018 | 261 396 | 333 130 | 40 108 | 073 03 | 000,460 | 703,294 | | | | 703.294 | 408.518 | 240.421 | 070 071 | 2025 | 86,397 | 52,696 | 32 493 | 20.244 | 12.730 | 100 a | 2,000 | 2 257 | 2,000 |
| 2017 | 20:08 | 222 422 | 47 738 | 2011 | 100.434 | 518,702 | | | | 518,702 | 308.828 | 184 184 | 22,500 | 25.5 | 70,093 | 43 724 | 27 559 | 17 544 | 11 275 | 7 210 | 400 | 3 1 6 6 | 2,130 |
| 2016 | 165 500 | 277.776 | 45 205 | 200 | 25,910 | 540.466 | | | | 540,466 | 379.830 | 303 606 | 20,000 | 557/77 | 80,337 | 51.253 | 33 073 | 21 470 | 14 000 | 7550 | 4,554 | 1000 | 25.50 |
| 2015 | 73.007 | 3,72,72 | 47.045 | 2007 | 51.276 | 411.314 | | | | 411,314 | 257 280 | 124 651 | 102-71 | 17.73 | 67,253 | 43,881 | 2000 | 10000 | 12,207 | 12,0/2 | 8,701 | 5,928 | 4,069 |
| 2014 | 21.016 | 247.50 | 70.707 | 665.7% | 50,142 | 366 544 | | | | 366,544 | 245.015 | 2000 | 134,300 | 81/.65 | 65,926 | 100 57 | 01700 | 22,017 | 17.77 | 00/51 | 2,429 | 6,603 | 4,623 |
| 2013 | 0,0 | 130.012 | 702.507 | 40.920 | 47,502 | 794 AR7 | | | | 434.407 | 1 | | 189.530 | 127,044 | 85,945 | 58 655 | 076.04 | 2000 | 020,62 | 25.290 | 13.79 | 9,782 | 6,986 |
| 2012 | 000 | 7967/ | • | - 1 | 44.862 | 334 744 | | <u>ت</u> | | 334 744 | 226 403 | 724,77 | 155,550 | 105,239 | 72,850 | 20 248 | 200 | 37775 | 18.65 | 18,100 | 13,018 | 9,422 | 6,864 |
| | | 200 | | OTHER VARIABLE COST | 1- | TOTAL COST | 1000 | PRESENT VALUE | Rate of: | 2000 | 2000 | 2.30% | 5.00% | 7.50% | 10.00% | 10 500 | 2000 | 15.05% | 17.50% | 20.00% | 22.50% | 25.00% | 27.50% |
| | | INVESTMENT COST | FUEL COST | OTHER VAL | FIXED COST | V.X.O.E. | | PRESEN | @ Discount Rate of: |) | | | | | | | | | | | | | |

Table 9.4.12 HIGH CASE III-2 (ECONOMIC)

Economic

TOTAL COST

| 2011 | 28,857 | 148,793 | 22,428 | 17,881 | | 217,959 | Econom | | 217,959 | 150,493 | 104,842 | 73,663 | 52,178 | 37,247 | 26,786 | 19,400 | 14,147 | 10,383 | 7,669 | 5,698 | 4,258 |
|------|----------------|-------------|----------------------|------------|----|-----------------|----------------------------------|---------------|-----------------------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2010 | 124,539 | 121,682 | 21,406 | 16,685 | | 284,312 | | | 284,312 | 201,216 | 143,597 | 103,295 | 74,868 | 54,659 | 40,182 | 29,735 | 22,144 | 16,592 | 12,504 | 9,477 | 7,221 |
| 2009 | 66,826 | 94,570 | 20,385 | 15,489 | 1. | 197,270 | | | 197,270 | 143,104 | 104,617 | 77,046 | 57,142 | 42,666 | 32,062 | 24,242 | 18,438 | 14,102 | 10,845 | 8,384 | 6.513 |
| 2008 | 22,950 | 97,044 | 19,703 | 16,376 | | 156,075 | | | 156,075 | 116,050 | 86,908 | 65,529 | 49,730 | 37,975 | 29,171 | 22,536 | 17,505 | 13,668 | 10,725 | 8,457 | 6699 |
| 2007 | 95,851 | 76,925 | 19,022 | 15,409 | | 207,207 | | | 207,207 | 157,922 | 121,150 | 93.522 | 72,625 | 56,719 | 44,538 | 35,155 | 27,888 | 22,228 | 17,799 | 14,315 | 11,562 |
| 2006 | 49,951 | 56,805 | 18,341 | 14,442 | | 139,538 | | | 139,538 | 109,007 | 85,664 | 67,703 | 53,798 | 42,970 | 34,492 | 27,817 | 22,536 | 18,337 | 14,983 | 12,291 | 10,122 |
| 2005 | 32,625 | 49,465 | 15,770 | 12,446 | | 110,307 | | | 110,307 | 88,326 | 71,105 | 57,534 | 46,781 | 38,215 | 31,356 | 25,838 | 21,378 | 17,757 | 14,805 | 12,388 | 10,402 |
| 2004 | 79,707 | 41,040 | 12,934 | 10,188 | | 143,870 | | | 143,870 | 118,081 | 77.377 | 899'08 | 67,116 | 56,072 | 47,031 | 19,597 | 33,460 | 28,371 | 24,137 | 20,601 | 17,637 |
| 2003 | 77.896 | 33,016 | 10,206 | 8,093 | | 129,212 143,870 | | | 129,212 | 108,701 | 91.828 | 77,883 | 906,39 | 56,655 | 48,575 | 41,787 | 36,061 | 31,214 | 27.098 | 23,590 | 20.592 |
| 2002 | 76.129 | 25.379 | 7,582 | 6,152 | | 115,242 | | | 115,242 | 99,372 | 85 995 | 74.672 | 65.051 | 56.845 | 49,822 | 43.791 | 38,594 | 34,103 | 30.210 | 26.826 | 23.875 |
| 2001 | 74.404 | 18.114 | 5.058 | 4,355 | | 101,931 | | | 101.931 | 90.092 | 79.866 | 71.001 | 63.291 | 56.564 | 50.678 | 45.511 | 40.964 | 36.951 | 33.401 | 30.252 | 27,453 |
| 2000 | 90.523 | 7.471 | 1.755 | 1,754 | | 101,503 | | | 101,503 | 91.957 | 83.507 | 76,00,6 | 69 328 | 63.368 | 58.035 | 53.251 | 48.950 | 45.075 | 41.576 | 38.410 | 35,539 |
| 6661 | 68.747 | 7.278 | 1.720 | 1,703 | | 79,448 | | | 79 448 | 73.775 | 68.630 | 63,953 | 59.691 | 55,799 | 52,238 | 48.975 | 45.977 | 43,219 | 40.677 | 38.331 | 36,162 |
| 1998 | 17,008 | 3545 | 843 | 808 | | 22,203 | | | 22.203 | 21 133 | 20 139 | 19 213 | 18350 | 17.543 | 16 789 | 16.082 | 15419 | 14 796 | 14 210 | 13.658 | 13,138 |
| 1997 | 24 937 | 3 454 | 828 | 787 | | 30,001 | | | 30.001 | 29 269 | 28 572 | 27 QUR | 27.273 | 26 667 | 26.088 | 25 522 | 25.001 | 24.490 | 24.001 | 23 530 | 23,077 |
| 1996 | 16.251 | | , _ | 0 | | 16,251 | | | 16251 | 16.251 | 16.051 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 | 16.251 |
| 1995 | 23,820 | 0 | - | | | 23,829 | | Economic | 73 870 1 | 2CP PC | 25.021 | 25,616 | 26,212 | 26.808 | 27.404 | 27,000 | 28 505 | 20 101 | 20 786 | 30 382 | 30,978 |
| | NVECTARNT COST | FI IBI COST | OTHED VARIARI E COST | FIXED COST | | TOTALCOST | CALL II T / N CHIN CONTO CA CALL | C STATES ALVE | (a) Discount Kate of: | 2 50% | 200 V | 200% | 2000 | 12.50% | 15.00% | 17.50% | 2000% | 22.50% | 25.00% | 27.50% | 30.00% |







High Case III-2

Economic

| | 2012 | 2013 | 2014 | 2015 | 9107 | 7107 | 0107 | 5070 | 7707 | 3 | 7 | } | | | ! |
|---------------------|-------------|---------------------------|---------------------------|---------|-------------------------------|---------|---|-------------------|---------|-----------------|---------|----------|---------|---|-----------|
| | | | | , , | 0,0 | ,,,,, | 20, 210 30, 121 210,000 | 301 771 | 276 453 | 200 017 155 106 | 154 106 | 105 208 | 78 357 | c | 2.741.245 |
| INVESTMENT COST | 66.826 | 124,539 | 28,857 | 66,826 | U47, 151 | (3.5) | 45,757 | 061 | 61017 | 720,21, | 1 | | 000 | 0000 | C 344 OCO |
| 15000 10111 | 140 285 | 176 496 | 203 698 | 204 199 | 1 204 199 1 231 311 1 278,542 | 278.542 | 279,134 | 333,356 333,948 | 333,948 | 380,112 442,138 | 442,138 | 401.182 | 80.57 | 200 | 5000 |
| FUEL COST | -1 | 2017 | 707 30 | 36 515 | 27577 | 20.240 | 30.262 | 308.68 | 33,327 | 36.760 | 39.902 | 43,334 | 45,795 | 49,908 | 646,281 |
| OTHER VARIABLE COST | 75.430 | 7/4/57 | 47,474 | C+1.77 | , , , , | 2 | T | 1 | | 2 | | 20 . 4 . | 105 17 | CL 7 7 7 | 537.218 |
| FIXED COST | 18,063 | 19,259 | 20,454 | 20,637 | 21,832 | 23,995 | 24,178 | 400.02 | 70,07 | | | -30,041 | 1221 | 1 | |
| | | | | | | | | | | | | | | | |
| | 2000 | 244 76.5 | 1 270 413 | 210170 | 430 200 | 405 179 | 1.00 07.2 | 556 427 | 610.480 | 746.907 | 672.422 | 649,464 | 669,434 | 310 170 170 170 170 170 170 170 170 170 1 | 9,270,803 |
| TOTALCOST | 4771.07 | 00, 44. | 771,174 344,100 1 2/0,414 | 21017 | 2777 | 22.17 | 1 | | | | | | | | |
| | | | | | | | | | | | | | | | |
| PRESENT VALUE | ŭ | | | | | | | | | | | | | | |
| @ Discount Rate of: | | | | | | | | | | | 1 23: | 1,77 | 100,000 | | 200 000 |
| Ę | X CC - 20 . | C17 9CC 327 KXC 1 200 710 | 279.412 | 218 178 | 132 220 I | 505 120 | 318 178 437 770 405 129 572 921 556 427 610 480 746,907 672,422 649,464 009,434 584,100 | 556.427 | 610,480 | 746,907 | 672,422 | 457.454 | 45.600 | | 2,4/0,0/2 |
| | +7/10 | | 210,21 | | | | | | 42.000 | 100 001 | 030 030 | 351 000 | 202 206 | 133 369 1 | 2 665 248 |
| | | | 4 | | | | | | | | | | | | |

| 803 | 0,0 | ş | 417 | 895 | 920 | | ā | 88 | 3 | | 69 | 4 | 8 | 78 | 48 | 141 | |
|-----------|---------|---------|-----------|-----------|-----------|---------|--------|--------|--------|---------|--------|--------|--------|--------|---------|----------|----------|
| 9.270,803 | 2772 | .000 | 3,619,417 | 2,418,895 | 1 600 076 | | 1232 | 934,5 | 73.4 5 | 2 | 595,6 | 496.3 | , , | 44.5,1 | 367,948 | C 3 C 2 | , fee, 1 |
| 680 160 | 000000 | 324,300 | 165,242 | 83,515 | 178 Ch | , , , | 22,345 | 11,813 | C22 > | 1 | 3,438 | 1 801 | | 1,052 | 263 | 600 | 2 |
| 727 633 | 200 | 55,305 | 170,768 | 88.363 | 1CV 3V | .7.0 | 24,742 | 13,371 | 1220 | 7,7 | 4,061 | 7 280 | | 1,295 | 744 | 100 | 404 |
| 640 464 | 20,000 | 353,435 | 173,958 | 92.157 | 073 07 | 43.74 | 27,005 | 14.918 | 0.00 | 0.1 | 4,728 | 2700 | 1 | 1,570 | 920 | 242 | 7 |
| CCA CTA | 444 | 353,852 | 189,112 | 102 570 | 005 33 | 20.420 | 31,454 | 17,762 | | 10,134 | 5.874 | 2126 | | 2,032 | 1.214 | 200 | (33 |
| 746 007 | 140,707 | 402,875 | 220.564 | 177 477 | 28.07 | 156,50 | 39,306 | 22,689 | | 5.00 | 7.830 | 7627 | 0/5 | 2 822 | 1 720 | 010 | × |
| 610 400 | 2010 | 337,520 | 189.290 | 107614 | | 4/5/10 | 36,142 | 21 327 | | 27/72 | 7.679 | 4077 | 700.4 | 2.883 | 1 702 | | · · |
| LEEK 1933 | 230,42 | 315,326 | 181,157 | CAA 201 | 1 | 62,141 | 37,060 | 22 354 | | 3,031 | 3000 | | 3,421 | 3.285 | 2,083 | | 2.2.2 |
| | 376,370 | 332,789 | 105 853 | 012511 | 710,717 | 70,381 | 42.928 | 26,460 | | 16.492 | 10 378 | | 0,293 | 1227 | 272 | | 127 |
| 00: 207 | 40.123 | 241.208 | 345 418 | 00 710 | 96.717 | 54.745 | 34 150 | 21 434 | 2.00 | 13.702 | 808 | 36.5 | 5,71 | 1737 | 2 465 | 2 | 7 |
| 000 00: | 457,220 | 263.771 | 162 800 | 101 750 | 101,101 | 64,247 | 40 G88 | 26,400 | 40,40 | 17.177 | 720 | | 404 | 7 083 | 2354 | | 7700 |
| 32, 3,3 | 318,178 | 100,029 | 125 014 | 50.501 | 30,521 | 52.025 | 33 045 | 22000 | 42,337 | 14.858 | 050 | 2.2.2 | 6,731 | A 585 | 0716 | | ,,,,, |
| | 278,412 | 178 508 | 115 696 | 0001 | | 50.075 | | 20,000 | 755,77 | | 63701 | | 7215 | | 25.00 | 217.5 | 100 |
| | 344,766 | 226 570 | 007 | 120,000 | 100.828 | 68.210 | 16.551 | 10000 | 32,038 | 70000 | 12.25 | A-C: | 10.945 | 27.6 | 70/1/ | 1,00 | 1000 |
| | 257.724 | 177 650 | 200 | 10,000 | 81.025 | 56 1388 | 30.146 | 141,40 | 745/7 | 10 523 | 20,000 | 25,51 | 10.023 | ×36+ | 1,57 | 3,484 | |
| Rate of: | 000% | 3 500 | 200 | 5.00% | 7.50% | 10 00% | 2000 | 12.30% | 15.UZ% | 1005 61 | 20000 | 20.00% | 22 50% | 2000 | 22.02% | 27.20.72 | 1000 |

Table 9.4.13 ANALYTICAL STUDY ON THE PRESENT VALUE OF TOTAL COST OF THE CASES

(1) COMPARISON OF CALCULATED PRESENT VALUE

| | | | | 0.00.0 | 0,00.7 | | | | 222:11 | 2000 | | | | 00.00 |
|---------------------|-----------|----------|-------|--------|--------|-------|-------|-------|--------|------|-----|-----|-----|-------|
| Base Case Financial | Financia | * | | | | | | | | | | | | |
| | <u>+</u> | 9,914 | 6,073 | 3,876 | 2,578 | 1,787 | 1,288 | 983 | 746 | 596 | 489 | 411 | 353 | 309 |
| | 1-1 | 11,348 | 6,937 | 4,413 | 2,921 | 2,011 | 1,438 | 1,066 | 817 | 646 | 525 | 438 | 373 | 324 |
| | 111-1 | 9,984 | 6,140 | 3,939 | 2,638 | 1,842 | 1,339 | 1,010 | 789 | 635 | 525 | 444 | 384 | 337 |
| Base Case | Economic | ic | | | | | | | | | | | | |
| | 1-1 | 7,990 | 4,902 | 3,135 | 2,090 | 1,453 | 1,050 | 789 | 613 | 492 | 406 | 343 | 296 | 260 |
| | - | 9,206 | 5,636 | 3,592 | 2,383 | 1,645 | 1,180 | 878 | 676 | 536 | 438 | 366 | 313 | 273 |
| | 11-1 | 7,858 | 4,838 | 3,110 | 2,088 | 1,464 | 1,069 | 811 | 289 | 516 | 429 | 398 | 318 | 281 |
| | | | | | | | | | | | | | | |
| High Case | Financial | | | | | | | | | | | | | |
| | Ċ | 11,775 | 7,173 | 4,555 | 3,017 | 2,083 | 1,498 | 1,118 | 865 | 069 | 566 | 475 | 408 | 356 |
| | 11-2 | 11,749 | 7,173 | 4,567 | 3,033 | 2,100 | 1,513 | 1,132 | 876 | 669 | 573 | 481 | 412 | 360 |
| | 111-2 | 11,694 | 7,142 | 4,557 | 3,039 | 2,117 | 1,537 | 1,160 | 907 | 731 | 909 | 513 | 444 | 390 |
| High Case | Economic | Ö | | | | | | | | | | | | |
| | 1-2 | 9,552 | 5,825 | 3,704 | 2,457 | 1,701 | 1,226 | 918 | 713 | 571 | 470 | 396 | 342 | 299 |
| | 1-2 | 9,512 | 5,816 | 3,710 | 2,470 | 1,715 | 1,239 | 930 | 723 | 579 | 477 | 402 | 346 | 303 |
| | 2-⊒ | 9,271 | 5,665 | 3.619 | 2,419 | 1,690 | 1,232 | 935 | 735 | 596 | 496 | 423 | 368 | 325 |

Table 9.4.14 RESULT OF SENSITIVITY ANALYSIS

| BASE CASE | | | | | [| | 0.500/ | 15.00% | -7 COV / | 20.00% | 22 50% | 25 00% | 27 50% | 30.00% |
|--------------|--------------|----------------|--------------|---------------------------------------|----------------|--|----------------|--|--|--------------|--------------|----------------|----------------|--------------|
| Discount Rat | e: | 0.00% | 2.50% | 5.00% | 7.50% [| 10.00%[1 | 2.50%] | 15.00% | 7.5076 | 20.00% | 22.30 /61 | 20.00 /01 | 27.00.01 | 30.00.0 |
| FINANCIAL | Deviation | гт | | Т | | | | , , т | | I-1 | 1-1 | 1-1 | I-1 | 1-1 |
| | 0% | <u> -1 </u> | 1-1 | 1-1 | 1-1 | <u> -1 </u> | <u> -1</u> | 1-1 | <u> -1 </u> | | | | <u>!-!</u> 1. | |
| Investment | Cost | r | | | - 1 | - 1 | | Т | | | 1-1 | I-1 | 1-1 | 1-1 |
| | -20 % | 1-1-1 | 1-1 | | <u> -1 </u> | <u> -1</u> | <u> -1</u> | 1-1 | <u> -1</u> | <u> -1</u> | | | 1-1 | I-1 |
| | -10 % | 1-1 | <u>I-1</u> | | | <u> </u> | 1-1 | 1-1 | 1-1 | <u>-!-1</u> | <u> </u> | 1-1 | | |
| | +10 % | <u> 1-1</u> | _ I-1 | -1 | I-1 | <u> </u> | 1-1 | 1-1 | <u> -1</u> | <u> -1</u> | -1-1 | 1-1 | | |
| | +20 % | 1-1 | 1-1 | I-1 | I-1 | <u> !-1 </u> | I-1 | 1-1 | -1 | 1-1 | -1 | -1 | 1-1 | <u> -1</u> |
| Fuel Cost | | | | | | Т | | - | | | | | 1 | : 4 |
| | -20 % | -1 | 1-1 | -1 | <u> -1-1</u> | 1-1 | <u> -1</u> | <u> </u> | <u> -1</u> | !-! | <u></u> | <u> -1</u> | <u> -1</u> | <u>i-1</u> |
| | -10 % | 1-1 | 1-1 | <u>l-1</u> | 1-1 | 1-1 | -1 |]-1 | 1-1 | 1-1 | 1-1 | <u></u> | 1-1 | -1-1 |
| | +10 % | 111-1 | <u> -1</u> | | 1-1 | <u>l-1</u> | <u>l-1</u> | <u> 1-1</u> | 1-1 | <u> -1</u> | 1-1 | -1 | -1 | <u>-1</u> |
| | +20 % | 111-1 | <u>III-1</u> | -1 | <u> -1</u> | 1-1 | !-1 | 1-1 | <u>l-1</u> | !-1 | <u> </u> | <u> </u> | <u> </u> | <u> -1</u> |
| | +30 % | HI-1 | 111-1 | | -1 | 111-1 | <u> -1</u> | <u> 1-1</u> | <u> -1</u> | <u> -1</u> | 1-1 | l-1 | <u></u> | !-1 |
| | +40 % | 111-1 | III-1 | 111-1 | III-1 | 10-1 | 111-1 | <u> -1</u> | I-1 | <u> -1</u> | <u> </u> | !-1 | 1-1 | <u></u> |
| | +50 % | 111-1 | 111-1 | 111-1 | 111-1 | 111-1 | <u> -1</u> | 111-1 | <u> -1</u> | <u> </u> | 1-1 | l-1 | I-1 | -1 |
| | +60 % | 111-1 | III-1 | 111-1 | 111-1 | III-1 | 11]-1 | 111-1 | | <u> </u> | 1-1 | <u> </u> | <u> </u> | <u> -1</u> |
| | +70 % | 111-1 | 111-1 | -1 | 111-1 | 111-1 | 111-1 | 111-1 | 111-1 | [[]-1 | <u> -1</u> | 1-1 | | 1-1 |
| | +80 % | -1 | 111-1 | 111-1 | HI-1 | 111-1 | III-1 | <u> III-1</u> | 111-1 | iii-1 | 111-1 | -1 | 1-1 | -1 |
| | +90 % | 111-1 | 111-1 | III-1 | <u> -1</u> | 111-1 | 111-1 | 111-1 | 111-1 |]-1 | -1 | 111-1 | 1-1 | l-1 |
| | +100 % | 111-1 | 111-1 | 111-1 | 111-1 | 111-1 | 111-1 | 111-1 | j I-1 | -1 | -1 | -1 | 111-1 | 1-1 |
| Other V-Co | st + Fixed | Cost | | | | | | | | | | | | |
| | -20 % | 111-1 | 111-1 | 111-1 | 1-1 | <u> -1</u> | <u> -1</u> | I-1 | -1 | 1-1 | 1-1 | l-1 | 1-1 | <u> </u> |
| | -10 % | 111-1 | 1-1 | 1-1 | J-1 | <u> -1</u> | 1-1 | 1-1 | 1-1 | <u>l-1</u> | <u> 1-1</u> | 1-1 | [-1 | -1 |
| | +10 % | -1 | 1-1 | 1-1 | 1-1 | 1-1 | 1-1 | <u> </u> | 1-1 | 1-1 | <u> </u> | 1-1 | <u> </u> | <u> -1</u> |
| | +20 % | 1-1 | 1-1 | 1-1 | 1-1 | l-1 | I-1 | 1-1 | 1-1 | 1-1 | -1 | -1 | -1 | 1-1 |
| | | | | | | | | | | | | | | |
| ECONOMIC | Deviation | 1 | | · · · · · · · · · · · · · · · · · · · | | | | г | | | 1 | | | |
| | 0% | 111-1 | 111-1 | III-1 | 111-1 | 1-1 | l-1 | <u> -1</u> | <u>l_l-1</u> | <u> -1</u> | 1-1 | 1-1 | <u> -1 </u> | -1 |
| Investmen | t Cost | | | | | p | | | | r | ï | Т | | |
| - | -20 % | 111-1 | 111-1 | 111-1 | -1 | 111-1 | <u> 1-1</u> | <u> </u> | <u> -1</u> | 1-1 | 1-1 | <u> -1</u> | <u> -1</u> | <u> -1</u> |
| | -10 % | 111-1 | 111-1 | 111-1 | 111-1 | <u> -1</u> | 1-1 | 1-1 | -1 | -1 | <u> -1</u> | | 1-1 | <u> </u> |
| | +10 % | -1 | 111-1 | 111-1 | I-1 | 1-1 | 1-1 | 1-1 | I-1 | <u> 1-1</u> | <u> -1</u> | 1-1 | -1 | -1 |
| | +20 % | 111-1 | 111-1 | 111-1 | 1-1 | <u> -1</u> | 1-1 | 1-1 |] -1 | 1-1 | 1-1 | -1 | I- <u>1</u> | l-1 |
| Fuel Cost | | | | | | · | | | ···· | 1 | 1 | т | T | |
| | -20 % | 1-1 | 1-1 | 1-1 | 1-1 | I-1 | 1-1 | 1-1 | -1 | 1-1 | 1-1- | -1 | -1 | <u> -1</u> |
| | -10 % | 111-1 | -1 | 1-1 | <u> -1</u> | 1-1 | 1-1 | <u> -1</u> | 1-1 | <u> -1</u> | <u> -1</u> | <u> -1</u> | 1-1 | 1-1 |
| | +10 % | 111-1 | 111-1 | 111-1 | 111-1 | (1)-1 | <u>l-1</u> | 1-1 | 1-1 | 1-1 | 1-1 | <u> -1</u> | <u> -1</u> | <u> -1</u> |
| | +20 % | 111-1 | 111-1 | [[]-1 | 111-1 | 111-1 | 111-1 | | <u> </u> | <u> -1</u> | 1-1 | <u> -1-1</u> | -1 | 1-1 |
| | +30 % | 111-1 | 111-1 | 111-1 | lil-1 | <u> -1</u> | -1 | 111-1 | 1-1 | -1-1 | | 1-1 | <u> -1</u> | -1 |
| | +40 % | 111-1 | 10-1 | 111-1 | III-1 | 111-1 | 111-1 | 111-1 | -1 | -1 | <u> -1</u> | - -1 | -1 | 1-1 |
| | +50 % | 111-1 | III-1 | 111-1 | -1 | 111-1 | 111-1 | 111-1 | 111-1 | 111-1 | I-1 | 1-1 | -1 -1 | J-1 |
| | +60 % | 111-1 | 111-1 | 111-1 | 111-1 | 111-1 | -1 | 111-1 | HI-1 | 111-1 | -1 | -1-1 | <u> -1</u> | <u> -1</u> |
| | +70 % | il1-1 | 111-1 | iii-1 | <u> -1</u> | -1 | <u> III-1</u> | <u> -1</u> | -1 | 111-1 | 111-1 | <u> -1</u> | -1 | 1-1 |
| | +80 % | 111-1 | 111-1 | 111-1 | -1 | 111-1 | 111-1 | 111-1 | 111-1 | 1-1 | -1 | 111-1 | J-1 | <u> -1</u> |
| | +90 % | 111-1 | 111-1 | -1 | 111-1 | 111-1 | 111-1 | -1 | 111-1 | 111-1 | 111-1 | 111-1 | -1 | I-1 |
| | +100 % | 111-1 | 111-1 | 111-1 | 1]]-1 | -1 | -1 | 111-1 | 111-1 | 111-1 | 11-1 | -1 | <u> -1</u> | -1 |
| Other V-C | ost + Fixe | d Cost | | ··· | | | · | | T | γ | T | т | T | 1 14 |
| | -20 % | 111-1 | 111-1 | 111-1 | 111-1 | -1 | 1-1 | 1-1 | <u> -1</u> | <u> -1</u> | 1-1 | 1-1 | I-1 | -1 |
| | -10 % | 111-1 | 111-1 | 111-1 | -1 | <u> -1</u> | 1-1 | 1-1-1 | <u> -1</u> | <u> -1</u> | -1 | | 1-1 | 1-1 |
| | 10 % | 111-1 | 111-1 | 111-1 | 1-1 | 1-1 | <u> I-1</u> | 1-1 | 1-1 | 1-1 | <u> -1</u> | 1-1 | <u> -1</u> | -1- |
| | +20 % | 111-1 | 111-1 | <u> -1</u> | <u> 1-1</u> | <u> -1</u> | 1-1 | 1-1 | <u> 1-1</u> | 1-1 | 1-1 | 1-1 | 1-1 | -1 |



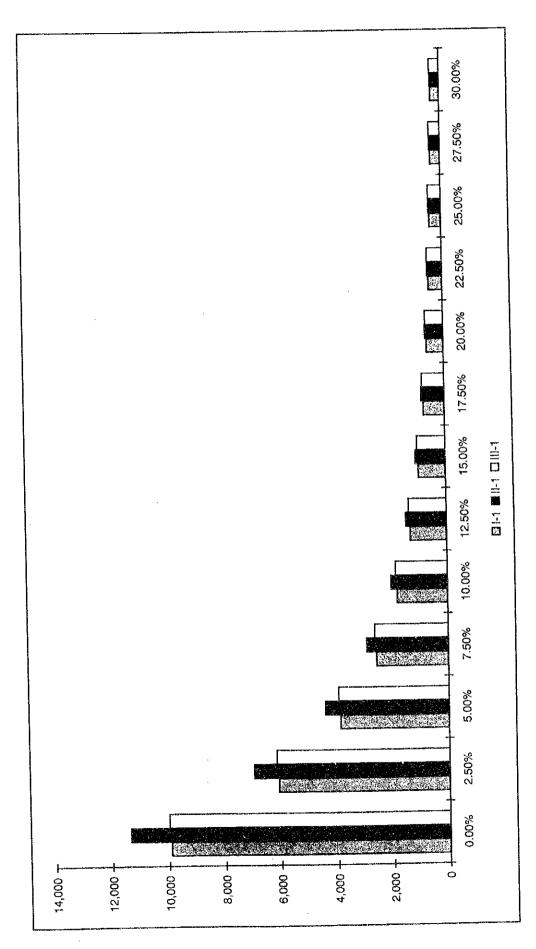
1.

| I. HIGH CASE | | | | | | | | | | | | | | |
|---------------|------------------|-------|-------|--------------|--------|----------|--------------|-------------|-------------|----------|---------------|--------------|---------|------------|
| | | 0.00% | 2.50% | 5.00% | 7 500/ | 10.00% | 12 50% | 15.00% | 17 50% | 20 00% | 22 50% | 25 00% | 27 50% | 30 00% |
| Discount Rai | | 0.00% | 2.50% | 3.00% | 7.50% | 10.00761 | 12.50/61 | 13.00 /0[| 17.00701 | 20.00701 | 22.00701 | 20.00701 | 27.5070 | 00.0070 |
| FINANCIAL | Deviation 0 % | 111-2 | III-2 | I-2 | I-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| Investment | | | 111-2 | | 1-2 | 1-2-1 | | | | <u>,</u> | | <u>, – ,</u> | | |
| 1114491110111 | -20 % | III-2 | III-2 | III-2 | I-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | -10 % | 111-2 | III-2 | III-2 | 1-2 | 1-2 | 1-2 | j-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +10 % | 111-2 | III-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | I-2 | 1-2 | 1-2 | 1.2 | 1-2 | 1-2 |
| | +20 % | 111-2 | III-2 | I-2 | -2 | I-2 | 1-2 | 1-2 | 1-2 | 1-5 | 1-2 | 1-2 | 1-2 | 1-2 |
| Fuel Cost | 120 101 | | | | | | | | | | | | · | |
| 1 50. 500. | -20 % | II-2 | I-2 | I-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | I-2 | 1-2 | l-2 |
| | -10 % | 11-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +10 % | III-2 | III-2 | III-2 | 11-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +20 % | III-2 | III-2 | III-2 | 111-2 | 111-2 | 1-2 | I-2 | I-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +30 % | III-2 | 111-2 | III-2 | III-2 | III-2 | III-2 | 1-2 | 1-2 | 1-2 | 1-2 | · I-2 | 1-2 | 1-2 |
| | +40 % | III-2 | III-2 | III-2 | 111-2 | III-2 | III-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +50 % | JII-2 | 111-2 | III-2 | 111-2 | III-2 | III-2 | III-2 | 1-2 | 1-2 | I-2 | 1-2 | 1-2 | 1-2 |
| | +60 % | 11-2 | III-2 | III-2 | III-2 | III-2 | 111-2 | 111-2 | 111-2 | 1-2 | I-2 | 1-2 | 1-2 | 1-2 |
| | +70 % | 111-2 | lii-2 | III-2 | III-2 | 111-2 | III-2 | III-2 | 111-2 | III-2 | III-2 | 1-2 | 1-2 | I-2 |
| | +80 % | III-2 | III-2 | 111-2 | 111-2 | III-2 | III-2 | 111-2 | 111-2 | 111-2 | 111-2 | III-2 | l-2 | 1-2 |
| | +90 % | 11-2 | III-2 | III-2 | III-2 | III-2 | III-2 | 111-2 | 111-2 | 111-2 | 111-2 | III-2 | 111-2 | 1-2 |
| | +100 % | 111-2 | III-2 | III-2 | III-2 | III-2 | 111-2 | III-2 | III-2 | III-2 | 111-2 | 111-2 | 111-2 | III-2 |
| Other V-Cos | t + Fixed | Cost | | | - | | | | | , | | | | |
| | -20 % | III-2 | 111-2 | III-2 | 111-2 | 111-2 | III-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | -10 % | 111-2 | III-2 | 111-2 | III-2 | 1-2 | 1-2 | 1-2 | <u> 1-2</u> | I-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +10 % | 11-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +20 % | 11-2 | -2 | I-2 | 1-2 | I-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | I-2 | I-2 | 1-2 |
| | | | | | | | | | | | | | | |
| ECONOMIC | Deviation | | | | | | | | | | - | | | |
| | 0% | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 1-2 | 1-2 | 1-2 | l-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| investment | 7 | r" | , | ſ <u>~~~</u> | | | | | | ··· | | 1 | | |
| | -20 % | III-2 | 111-2 | 111-2 | 111-2 | HI-2 | 111-2 | 1-5 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | -10 % | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | - <u>2</u> | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +10 % | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | I-2 | 1-2 | I-2 I-2 |
| Fuel Cost | +20 % | III-2 | 111-2 | III-S | 111-2 | 111-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| Fuel Cost | -20 % | III-2 | 111-2 | III-2 | 1-2 | 1-2 | I-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | -10 % | ill-2 | 111-2 | 111-2 | III-2 | 1-2 | 1-2 | 1-2 | 1.2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +10 % | 111-2 | 111-2 | III-2 | 11-2 | III-2 | 111-2 | I-2 | 1-2 | 1-2 | 1-2 | 1-2 | I-2 | I-2 |
| | +20 % | 111-2 | III-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | I-2 |
| | +30 % | III-2 | III-2 | 111-2 | III-2 | 111-2 | III-2 | 111-2 | 111-2 | I-2 | 1-2 | 1-2 | 1-2 | I-2 |
| | +40 % | 111-2 | 111-2 | III-2 | III-2 | lil-2 | III-2 | 111-2 | 111-2 | III-2 | 1-2 | 1-2 | J-2 | 1-2 |
| | +50 % | III-2 | 111-2 | III-2 | III-2 | JII-2 | 111-2 | III-2 | 111-2 | 111-2 | I-2 | 1-2 | 1-5 | 1-2 |
| | +60 % | 111-2 | III-2 | III-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 1-2 | 1-2 | 1-2 |
| | +70 % | 111-2 | 111-2 | III-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 1-2 | -2 |
| | +80 % | 111-2 | 111-2 | 111-2 | III-2 | 111-2 | III-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | I-2 |
| | +90 % | 111-2 | III-2 | 111-2 | III-2 | III-2 | III-2 | 111-2 | III-2 | 111-2 | III-2 | III-2 | JII-2 | 1-2 |
| | +100 % | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | III-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 |
| Other V-Co | st + Fixed | Cost | | | | · | | | , | · | ··· | · | | |
| | -20 % | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | 111-2 | -2 | 1-2 | 1-2 | 1-2 | I-2 | 1-2 | 1-2 |
| | -10 % | 111-2 | III-2 | 111-2 | 111-2 | 111-2 | 111-2 | 1.2 | 1-2 | 1-2 | I-2 | 1-2 | 1-2 | 1-2 |
| | +10 % | 111-2 | 111-2 | 111-2 | 111-5 | 111-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |
| | +20 % | 111-2 | 111-2 | 111-2 | III-2 | 1-2 | 1-2 | 1.2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 | 1-2 |

11.







完整

State of the last

Figure 9.4.1 COMPARISON OF CALUCULATED PRESENT VALUE - BASE CASE FINANCIAL

b. Salar

经营港

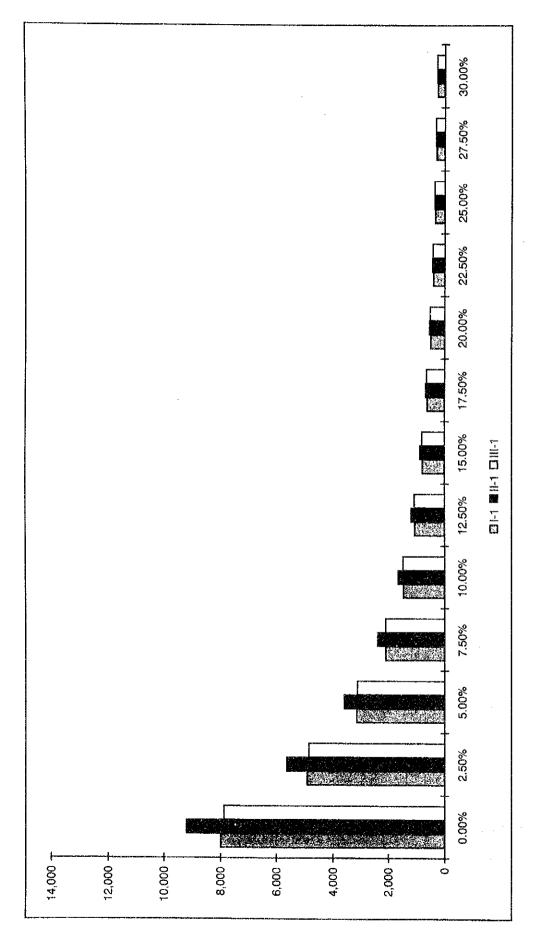
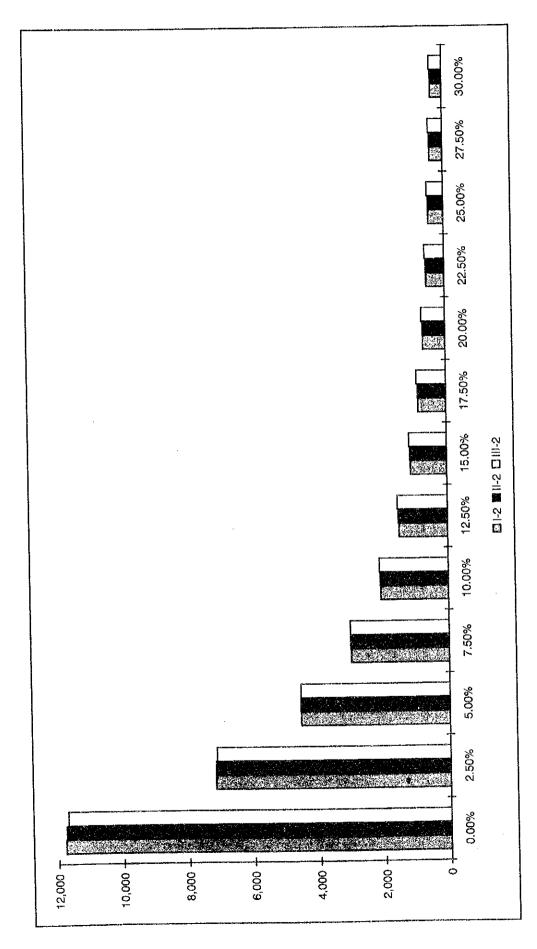


Figure 9.4.2 COMPARISON OF CALUCULATED PRESENT VALUE - BASE CASE ECONOMIC



Control of the contro

Figure 9.4.3 COMPARISON OF CALUCULATED PRESENT VALUE - HIGH CASE FINANCIAL

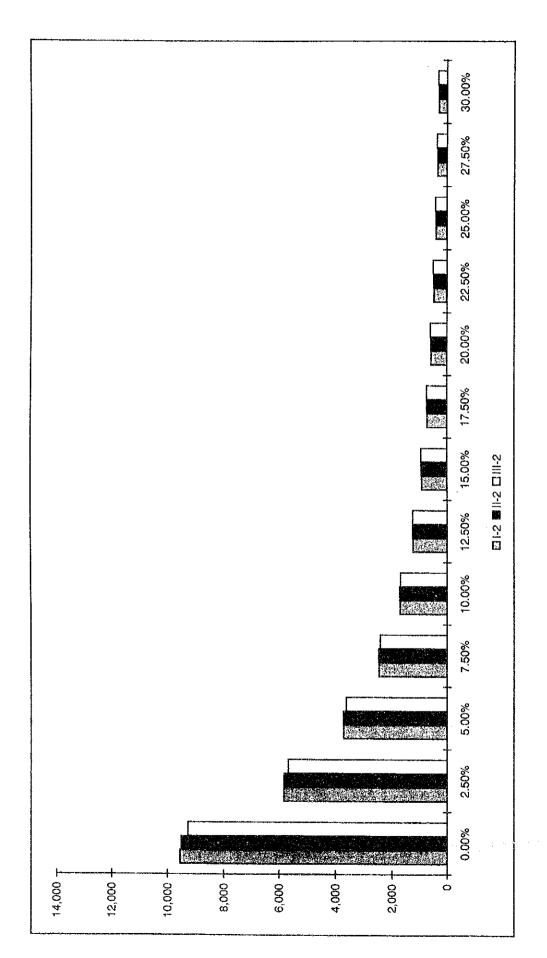


Figure 9.4.4 COMPARISON OF CALUCULATED PRESENT VALUE - HIGH CASE ECONOMIC

9.5 Scenario of Optimum Energy Supply

It is the "Results of Energy Demand Forecast up to the Year 2025" in Chapter 7 of this report that was prepared taking into consideration the energy situations at home and abroad based on the scenario of future economic growth forecast. The 30 years from 1996 are divided into three decades, and three different economic growth rates are assumed for each of the three periods to forecast energy demand. In the forecast, the demand for each of different energy sources is also estimated. However, those estimates are based entirely on the present mix of energy sources: the concept of replacement or supplementation with new energy is not reflected in them. Namely, the energy forecast was made with grasping the future energy demand (side) as the main theme.

Formulating a scenario of optimum energy supply (best mix) is an attempt to work out an optimum scenario for Mauritius by evaluating the characteristics of individual sources of energy, from the viewpoint of technology (present level of technology and technical potential), economy (capital cost, operating cost, production cost), environment (impact on the environment), etc. based on the energy demand forecast. Fig. 9.5.1 shows the conceptual flow of the process. The work of evaluation is described in concrete in various parts of this report. In this chapter, the evaluation results are summarized and reviewed. Though the main object of economic evaluation is power generating technology, the ultimate objective of formulating the above scenario is to find ways to optimize the primary energy, including the energy input for power generation.

In studying the above energy optimization, the following three points were given the most careful consideration.

- a) Diversifying sources of energy
- b) Reducing dependence on imports for energy
- c) Paying due attention to environmental problems

With respect to item c) generally speaking, both the technical and environmental characteristics ultimately converge on the economic cost. Therefore, ultimately, the evaluated investment cost becomes the criterion for optimum scenario. Here, however,

consideration is given not to exclude any mix which is costly because short-term economic efficiency is pursued but which is desirable in terms of economic efficiency and environmental protection in the long run.

9.5.1 Evaluation of Characteristics of Energy Sources

(1) Transport and Domestic

With respect to gasoline and diesel oil as automotive fuels, no suitable substitutes are available for the moment. Therefore, there is no alternative but to promote the introduction of low-lead or unleaded gasoline or low-sulfur diesel oil. In terms of cost, they do not differ much from the high-octane leaded gasoline that is currently imported. Rather, new investment in facilities required to store them in the distribution process will push up the cost.

The same is true with heavy oil. It is possible to continue using high-sulfur heavy oil by introducing the flue-gas desulfurization process. However, in view of the extra cost involved, it is considered more advantageous to reduce the emissions of soot, dust, and NOx by switching to low-sulfur heavy oil.

LPG and jet fuel have no difficult technical problems, hence their consumption is expected to continue increasing in the future. In this respect, new investment in additional distribution facilities will be required.

(2) Power Generation

Concerning the power generating technology that Mauritius will be able to introduce in the future, construction of new hydroelectric power plants has already become impossible because of its geographical and economic limitations. In the present study, therefore, power generating technology other than hydroelectric power generation was evaluated. Technical evaluation was carried out using three criteria: a) power generating efficiency, b) cost, and c) flexibility of construction period. In making the final judgment, consideration was given to the points in optimization already mentioned.



The costs of various power generating systems were compared in Section 8.1. From the evaluation results, it is for the moment recommended that CCGT be employed to cope with intermdiate and base loads. The reasons are as follows.

- 1) At present, GT is most widely employed to cope with peak loads. Since GT can be used for CCGT (only the addition of a steam turbine is required), it helps increase the possibility of securing power sources.
- 2) With CCGT, the delivery time and construction period of devices can be curtailed.
- 3) CCGT is easier to maintain than the diesel engine generator.

Nevertheless, when it comes to diversifying energy sources and reducing dependence on imports for energy which are among the most important tasks of the energy sector of Mauritius, it is virtually impossible to implement medium- to long-term electric power development by CCGT alone. As the existing power plants, many of which employ GT, become obsolescent, new demand for electric power will appear on a constant basis. From this perspective, relatively large power generating equipment will be needed for some time. In this context, the Study Team recommends that coal-fired thermal power generation be introduced as a means to cope with the increase in power demand and the depreciation of the existing power generating equipment in the future. Using coal as a source of energy might be questionable from the viewpoint of environmental protection. However, this problem can be largely solved by employing the advanced technology of today. Rather, the prolongation of construction period due to environmental assessment, etc. will be a problem. Therefore, it will need a time for implementing a feasibility study.

Long-term scenarios (drafts) incorporating power generating equipment having those comparative advantages were subjected to an economic evaluation in the preceding section (9.4). From the evaluation results, it may be said that Scenario 1 (base case) in which power demand for the moment is to be met with GT and CCGT and coal-fired thermal power generation is to be introduced in 2021 is the most economical.

Best mix

The energy balances for 2000, 2010, and 2025 prepared from Scenario 1 (base case) are

shown in Tables 9.5.1 the own use of a bagasse at sugar mill is excluded from the table. The supply of new energy, including solar energy, is left out of consideration since it is difficult to predict its share, though such new energy could be put to practical use by the year 2025. Nevertheless, in view of the scenario of energy optimization in Mauritius, it is considered idealistic that 10% of the total power demand will be covered by new sources of energy by 2020 to 2025.

As a tendency in the future energy mix, it can be said that a kerosene and fuel wood will be gradually substituted by LPG. Meanwhile the yield of sugar cane will be going down, so that utilization of bagasse remain on the same level of the present. Other energy sources are also gradually increased at the almost same proportion.

However, after applied a coal-fired station in power generating system, a balance of energy sources will be substantially changed. That is, proportion in mauritius TPES depends on what a kind of energy sources convert into electricity



STATE OF THE PERSON NAMED IN

Table 9.5.1 ESTIMATED TOTAL PRIMARY ENERGY SUPPLY

| | | | | | | | - | | | | |
|------|-----------|----------|---------|------------|-----------------------|---------|-------|----------|--------|---------|-------------------|
| Year | Coal | Gasoline | Diesel | Kerosene | Fuel Oil | LPG | Fuel | Charcoal | Hydro | Bagasse | Total |
| 0000 | 50 133 | 115,210 | 158.796 | 38.743 | 286,027 | 53,395 | 1,792 | 421 | 11,180 | 61,384 | 924,137 |
| 2007 | 6.40% | 12 47% | 17.18% | 4.19% | | 5.78% | 0.19% | 0.05% | 1.21% | 6.64% | 100% |
| 0.00 | 100 727 | | 101 754 | 32 938 | | 90.911 | 192 | 313 | 11,180 | 78,137 | 1,54 |
| 0107 | 103,721 | | 1 | 2 120% | İ | 5 87% | 0.01% | 0 | 0.72% | 5.04% | 100% |
| | /.U&% | l | | 0/ 01:7 | 00000 | 200 440 | [| | 1 180 | | 162 440 4 570.288 |
| 2025 | 2,252,877 | 352,393 | 264,991 | 32,265 | | 014/77 | _ | | | | 2000 |
| | 49.29% | 7.71% | 5.80% | 0.71% | 22.97% | 4.98% | 0.00% | 0.01% | 0.03% | 3.55% | %00T |
| 2 | | | | of a haras | vorses and new energy | MATON | | | | | - |

Note: Excluding a jet fuel, own use portion of a bagasse and new energy.

Source: JICA Study Team

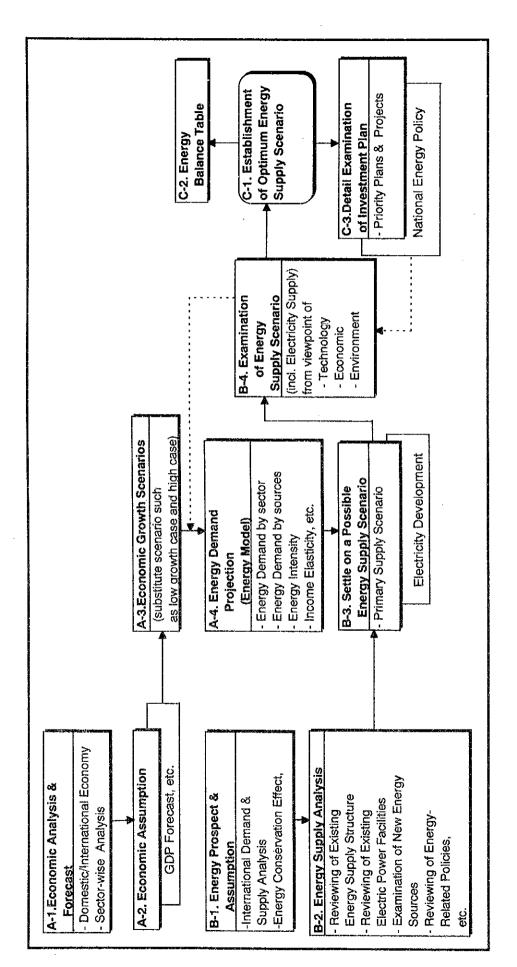
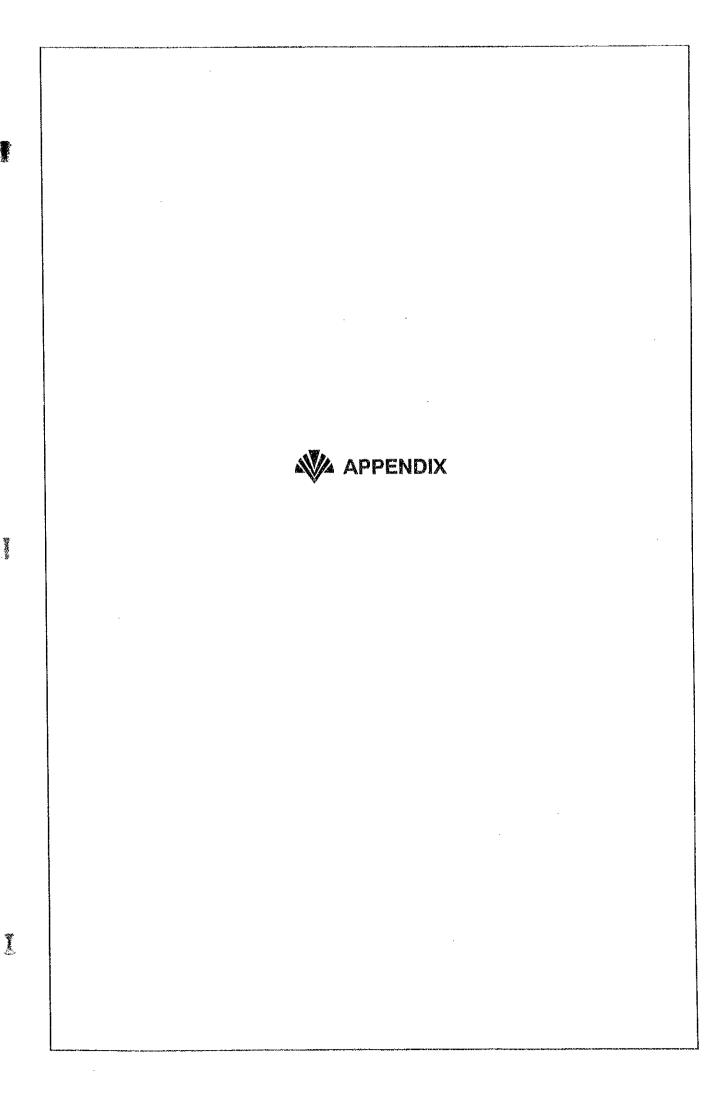


Figure 9.5.1 CONCEPTUAL WORK FLOW FOR MAKING AN OPTIMUM ENERGY SUPPLY SCENARIO





◆ Appendix 1 Incentives to BEDP Power Project ◆

Appendix 1 Incentives to BEDP Power Project

The BEDP Projects classified into following three type.

- ---- Those supplying power year round Firm suppliers
- Continuous suppliers ---- Those supplying power in the crop season only
- Intermittent suppliers ---- Those supplying power as and when they can export

The government provides considerable tax incentives to the sugar mills especially for the firm supplier.

Tax Incentives to Sugar Mills

Lower rate or zero tariff for new equipment and a. import duty

comparatively higher rate for spare parts.

This is common for import equipment.

15% b. income tax

> This is common in any manufacturing. 35% is applied to Mills can offset unrelieved losses sugar cane growing. against the profits of holding companies generally sugar cane growing ones, but not allowed vice versa. There is no time

limit for the carry forward of losses.

125% c. Capital expenditure

> This is common in any manufacturing as a bonus of allowance

> > depreciation. In the process of profit/loss calculation, they can deduct 125% of equipment expenditure from taxable

sales.

60% d. Bagasse generation

reduction

In a case of a full-year contract on bagasse power purchase between a sugar mill and CEB, the sugar mill can deduct 60% of power sales accruing from bagasse amount from their profits. This is a great privilege to sugar mills to expand

their businesses to power generation.

e. Tax free debenture for bagasse generation finance When a sugar mill borrows investment loans from a local commercial bank for electricity generation under a full-year contract with CEB, the bank can deduct the interest revenue of that credit from the taxable sales. This means the commercial bank can enjoy non-taxable interest revenue from the sugar mills who want to invest for bagasse based power generation.

Cases a, b and c are the common rule for manufacturing industries; cases d and e are special advantages to encourage sugar mills to commence bagasse-based power generation. Case d can lighten the investment burden of CEB, and case e encourages commercial banks to offer loans at a lower interest rate to sugar mills for investment in bagasse-based generation.

All sugar mills possessing vast expanses of sugarcane fields have mechanized their operations for planting, irrigating and harvesting. Plantations remove rocks with tractors, and use sprinklers, cultivation machines, large transport vehicles and the like, in order to stabilize sugarcane production costs. It is becoming difficult for sugar mills to secure the workers needed to cultivate their sugarcane fields. The younger generation prefers to work in the service sector in urban areas where opportunities are good, rather than to live as farmers in villages. Sugarcane mills are striving hard to diversify their businesses and modernize their operations, in order to maintain viability.





