X-1 Rehabilitation and Modernization Plan

X-1-1 Standards

The standards accepted internationally such as, JIS, JEC, JEM (Japan); DIN, VDE (German); BS, IEE (UK); NF, UTE (France); ANSI, NEMA (USA); and standards recommended by IEC.

X-1-2 Installed Load Capacity and Electric Power Consumption

> The planned installed electric load and electric power consumption are shown in the following tables, No. X-1-2-1 and X-1-2-2.

> > Table X-1-2-1, Installed Load Capacity

| | ·. | 13-11-1 | · · · · (τ | Init of 1 | oad capac | ity : kW) | | |
|-----------------|------|-------------|------------|-----------|---------------|-----------|--|--|
| | Q't | y of | motors | Loa | Load capacity | | | |
| Department | н/т | L/T | Total | H/T | L/T | Total | | |
| R/M Receiving | 3 | 13 | 16 | 780 | 167.7 | 947.7 | | |
| R/M Storage | 0 | 21 | 21 | 0 | 340.8 | 340.8 | | |
| Raw Mill | 3 | 32 | 35 | 4,450 | 186.6 | 4,636.6 | | |
| Blending Silo | 0 | 47 | 47 | 0 | 384.0 | 384.0 | | |
| Burning | 12 | 46 | 58 | 3,330 | 710.0 | 4,040.0 | | |
| Coal Mill | 2 | 33 | 35 | 680 | 241.0 | 921.0 | | |
| Utility | 0 | 15 | 15 | 0 | 256.0 | 256.0 | | |
| No.l F/Mill | 6 | 17 | 23 | 3,270 | 136.0 | 3,406.0 | | |
| No.2 F/Mill | 6 | 17 | 23 | 3,270 | 133.7 | 3,403.7 | | |
| No.l C/Packing | 0 | 25 | 25 | 0 | 248.2 | 248.2 | | |
| No.2 C/Packing | · 0. | 23 | 23 | . 0 | 216.0 | 216.0 | | |
| W/Shop & Office | 0 | - | ~~ | 0 | 60.0 | 60.0 | | |
| Total | 32 | 289 | 321 | 15,780 | 3,080.0 | 18,860.0 | | |

Note: 1) Abbreviation: R/M-Raw Material, F/ -Finish

C/ - Cement,

W/ - Work

2) The above data are calculated with the material from ICC and with the planned data.

| | | an an an an agus | (Unit: kWh/ | t-cement) |
|----------------|--------|------------------|---------------|----------------|
| | Actual | Typical in | After renova | tion |
| Department | #1 | Japan #1 | Load capacity | <u>Plan #2</u> |
| R/M Receiving | 2.07 | | 947.7(kW) | 2.07 |
| R/M Grinding | 42.11 | 33.7 | 5,020.6 | 32.51 |
| Burning | 25.72 | 25.4 | 4,040.0 | 27.33 |
| Coal Grinding | 6.21 | 4.9 | 921.0 | 5.25 |
| Finish Mill | 53.09 | 46.9 | 6,809.7 | 53.09 |
| Cement Packing | 2.33 | 1.1 | 464.2 | 2.33 |
| Utility | 9.05 | | #3 | |
| Office | 0.85 | 1.6 | 656.8 | 4.82 |
| Total | 141.43 | 113.6 | 18,860.0(kW) | 127.4 |
| | | | | |

Table X-1-2-2 Electric Power Consumption

Note: #1 - Data from Table VIII-8-5

a an an a

#2 - Clinker consumption is assumed as

0.955 t-clinker/t-cement.

#3 - The value includes load of water pumps, and of equipment in material storage and workshop.

X-1-3

Necessary Electric Power

The necessary electric poewr requirement in the renovated plant is calculated to be 16,100 kW maximum or 13,200 kW average as follows, based on the load factor and demand factor estimated from the load capacity shown in Table X-1-2-2, and taking account of the scale of the renovated plant.

| Unit power consump | tion | : | 127.4 kWh/t-cement |
|--------------------|------|-----|--------------------|
| Average power | #1 | : • | 13,200 kW |
| Load factor | #2 | .: | 82% |
| Maximum power | #3 | : | 16,100 kW |
| Demand factor | #4 | • | 85% |

- Note:
- #1 Average power is calculated by multiplying the unit power consumption by the hourly cement production capacity in ton,
- #2 As the process flow is somewhat simple in the plant and fluctuation of load is considered a few, the load factor can be assumed to be higher by about 10% than that in typical cement plant.
- #3 The maximum power is calculated by dividing the average power by the load factor.
- #4 Demand factor is calculated by dividing maximum power by the installed load capacity.
- X-1-4 Electric Supply System

The electric supply system to be applied to the plant is planned as follows (same idea as existing system).

- (1) Extra high voltage (for power receiving)
 AC 34.5 kV, 60 Hz, 3 phase, 3 wires, 1 circuit
- (2) High voltage (for the power generator, distribution lines and motors with large capacity)
 AC 4.16 kV, 60 Hz, 3 phase, 3 wires
- (3) Low voltage (for general-use motors and heaters with large capacity) AC 440 V, 60 Hz, 3 phase, 3 wires
- (4) For control and lighting
 AC 220 V, 60 Hz, 3 phase, 3 wires
- (5) For instruments and special use
 AC 100/110 V, 60 Hz, single phase and DC 24 V

X-1-5 Mechanical Equipment

X-1-5-1 Raw Material Grinding Department (B1000)

| B 1021 | Lin | estone Hoppe | r | | 1 set |
|-----------|-----|----------------|------|--------------------------------|-----------|
| (Existenc | | ** ** | | Reinforced concrete | |
| · | • | Capacity | | 50 m ³ | |
| | | | | 6,000W x 6,000L x 4,500H | |
| | | | • | | |
| B1022 | Hig | h-Silica Hopp | er | | 1 set |
| (Existenc | e) | Type | : | Reinforced concrete | |
| | | Capacity | : | 50 m ³ | |
| | | | | 6,000W x 6,000L x 4,500H | |
| 1 | | | | | · · · · · |
| B1023 | Lov | v-Silica Hoppe | r | | 1 set |
| (Existenc | | | | Reinforced concrete | |
| · | - | Capacity | | | |
| | | | | 6,000W x 6,000L x 4,500H | |
| | | | | | |
| B1024 | Pyr | rite Cinder Ho | pper | • . | 1 set |
| (Existenc | e) | Туре | : | Reinforced concrete | |
| | | Capacity | : | 50 m ³ | |
| | | Dimension | : | 6,000W x 6,000L x 4,500H | |
| | | · · · | | | |
| B1031 | Lin | nestone Weighi | ng F | eeder | 1 set |
| | | Туре | : | With Belt feeder and load cell | |
| | | Capacity | : | 190 - 19 t/h | |
| | | Dimension | : | Width 1,500 mm | |
| | | | | Length 10,000 mm | |
| | | Motor | : | 2.2 kW | |
| | | | | | |

| Item No. | | | · | | e de la composición d En esta de la composición de la composic | | |
|----------|-------------------|--------|--|---------------|---|--|--|
| B 1032 | High-Silica Weigh | ning l | Feeder | | | 1 set | |
| 10 1000 | - | | | feeder and lo | ad cell | • | |
| | Capacity | | | | | | |
| | Dimension | : | | | | | |
| | | | | 6,000 mm | | | |
| | Motor | : | | | | n an | |
| | | | | | | · · · · | |
| B1033 | Low Silica Weighi | ng F | eeder | | | 1 set | |
| | Туре | | | feeder and lo | ad cell | | |
| | Capacity | | 4.6 - 0.5 | t/h | | | |
| | Dimension | : | Width | 400 mm | | | |
| | · · · · | · . | Length | 6,000 mm | | | |
| | Motor | : | 1.5 kW | | | | |
| | | | V de la composición de la composicinde la composición de la composición de la composición de la compos | | | | |
| B1034 | Pyrite Cinder We | ighin | ig Feeder | | | 1 set | |
| | Туре | : | With Belt | feeder and lo | ad cell | | |
| | Capacity | : | 2.6 - 0.3 | t/h | | | |
| | Dimension | ; | Width | 400 mm | | | |
| | | | Length | 6,000 mm | | | |
| | Motor | : | 1.5 kW | | | | |
| | | | | | | | |
| B1040 | Belt Conveyor | ۰. | · : | | | 1 set | |
| | Туре | : | 3 roller | | | | |
| | Capacity | :: | | . • . • . | | | |
| | Dimension | : | Width | 600 mm | | | |
| | | | Length | 92,000 mm | | | |
| | Motor | : | 5.5 kW | | | | |
| | | | | | | | |
| B1050 | Belt Conveyor | | 1 | | | 1 set | |
| | Туре | - | 3 roller | | | | |
| | Capacity | : | 230 t/h | 000 | | | |
| | Dimension | : | Width | 600 mm | | | |
| | | | Length | 95,000 mm | | | |
| | Motor | | Height 18 kW | 25,000 mm | | | |

| Item No. | | | | |
|----------|-------------|---|---------------------------------|--------|
| B1060 | Hopper | | | 1 set |
| | Type | : | Load cell weighing system | • |
| | Capacity | : | 20 ton | |
| | Dimension | : | Diameter ^{\$} 3,000 mm | |
| | | | Height 5,000 mm | |
| | | | | |
| B1070 | Belt Feeder | | | 1 set |
| | Type | : | | · |
| | Capacity | : | 230 t/h | |
| | Dimension | : | Width 1,000 mm | |
| - | · · · · | | Length 3,500 mm | |
| | Motor | : | D.C 1.5 kW | |
| | | | | |
| B1080 | Mill | | | 1 set |
| | Type | : | Vertical roller mill | |
| | | | similar LM38 Ube-Loesche | |
| | Capacity | : | 220 t/h | |
| | | | where | |
| | | | Feed size : smaller than 50 mm | · . |
| | • • | | Fineness : residue of 15% on | |
| | | | 88 microns sieve | |
| | Motor | : | Mill : IMW 2,100 kW | |
| | | | Separator : VSM 55 kW | |
| | | | Oil unit : IM 1.5 kW x 2 sets | |
| | | | | • • |
| B1091 | Cyclone | | | 2 sets |
| ~ 2 | Туре | : | Mild steel with liner | |
| | Capacity | : | 115 t/h | |
| | Dimension | : | Diameter 5,000 mm | |
| | | | Height 18,000 mm | |
| | | | | |

| Item No. | | | · | • | |
|----------|-----------------|---|----------|----------------|---------|
| B1101 | Rotary Valve | | | | 2 sets |
| ∿2 | Capacity | : | 115 t/h | | |
| | Dimension | : | Diamete | r 600 mm | |
| | | • | Height | 800 mm | |
| | Motor | : | 1.5 kW | | |
| B1110 | Air Slide | | | | 1 set |
| | Туре | : | U-450 | | |
| | Capacity | : | 230 t/h | | |
| | Dimension | : | Width | 450 mm | · |
| | | | Length | 5.500 mm | * |
| | | | | | |
| B1120 | Air Slide | | ÷., | | 1 set |
| | Туре | : | U-450 | | . · · · |
| | Capacity | : | 230 t/h | | |
| | Dimension | : | Width | 450 mm | |
| | | | Length | 7,000 mm | |
| | | | | | |
| B1130 | Bucket Elevator | | 1. N. 1. | | 1 set |
| | Туре | : | Continu | ous | |
| | Capacity | : | 250 t/h | | |
| | Dimension | : | Width | 300 mm(bucket) | |
| | | | Height | 26,500 mm | |
| | Motor : | : | 37 kW | | |
| B1140 | Air Slide | | | · | 1 set |
| | Туре | : | U-450 | | |
| | Capacity : | : | 250 t/h | | |
| | Dimension | : | Width | 450 mm | |
| | | | Length | 9,000 mm | |
| | | | | | |

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|----------------|--------------|-----|-----------------------------------|--------|
| Item No. | A 2 011 1 - | | | 1 set |
| B1150 | Air Slide | | | TSet |
| | Туре | : | U-450 | |
| | Capacity | : | 250 t/h | |
| | Dimension | : | Width 450 mm | |
| | | | Length 2,500 mm | |
| | | | | 1 |
| B1160 | Air Slide | | | 1 set |
| | Туре | : | U-450 | |
| | Capacity | : | 250 t/h | |
| | Dimension | : | Width 450 mm | |
| | | | Length 61,000 mm | • • |
| | | | | |
| B1170 | Distributor | | | 1 set |
| | Туре | : | Air slide | |
| | Capacity | : | 0 - 250 t/h | |
| | Accessories | : | Gate dumper with manual | 9 sets |
| | | ÷., | Shut dumper with motor | |
| | | | | |
| B1181 | Air Slide | | | 8 sets |
| | Type | : | U-450 | |
| | Capacity | : | 250 t/h | |
| | Dimension | : | Width 450 mm | |
| | | | Length 11,000 mm | |
| B1190 | Turbo Blower | | | 1 set |
| | Capacity | : | 62 m ³ /min x 650 mmAq | |
| | Motor | : | 15 kW | |
| D 1900 | Turbo Blower | | | 1 set |
| B1200 | • | | 15 m ³ /min x 650 mmAq | 1 001 |
| | Capacity | : | | |
| | Motor | : | 3.7 kW | |
| | | | | |

| Item No. | : | | | |
|----------|--------------|------|------------------------------------|--------|
| B1211 | Bag Filter | | • | 2 sets |
| ~ 2 | Type | : | Pulse jet | |
| | Capacity | : | 150 m ³ /min | |
| | Filter area | : | 67 m ² | |
| | | | | |
| B 1221 | Rotary Valve | | | 2 sets |
| ~ 2 | Capacity | : | 5 t/h | |
| | Dimension | : | Diameter 200 mm | |
| | Motor | : | 0.4 kW | |
| | | | | |
| B 1230 | Compressor | .t., | | 1 set |
| | Туре | : | Portable | |
| | Capacity | : | 250 l/min x 7 kg/cm ² | |
| | Motor | : | 2.2 kW | |
| | | · . | | |
| B1241 | Fan | | | 2 sets |
| ∿2 | Capacity | : | 150 m ³ /min x 200 mmAq | |
| | Motor | : | 11 kW | |

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X-1-5-2 Raw Meal Silo Department (B2000, 3000)

Item No.

| | | | | · · · · · · · | | |
|--------------|-----|-----------------|-----|---------------|------------|--------|
| B2001 ∿9 | | rage Silo | | | · | 9 sets |
| (Modificatio | on) | Туре | | RC made | | |
| | | Capacity | : | 700 t | | |
| | | Dimension | : | | 10,000 mm | |
| | | | | Height | 9,000 mm | |
| | | Accessories | : | Silo discha | rge device | |
| | | | | | | |
| B2011 | Cut | Dumper | | | | 9 sets |
| · ∿ 9 | | Dimension | : | Width | 450 mm | |
| | | | | Length | 450 mm | |
| | | | | | | |
| B2021 | Con | trol Dumper | | | | 9 sets |
| ~ 9 | | Capacity | : 1 | 50 - 230 t/ | 'n | |
| | | Dimension | : | Width | 450 mm | |
| | | Motor | : | 0.4 kW | | |
| | | | | 4 | | |
| B 2031 | Air | Slide | | | | 3 sets |
| ∿3 | | Туре | : | U-450 | | |
| 1 | | Capacity | : | 250 t/h | | |
| | | Dimension | : | Width | 450 mm | |
| | | н. ¹ | | Length | 28,000 mm | |
| | | | | | | |
| B2040 | Tro | ugh Chain Con | vey | or | | 1 set |
| | | Туре | : | F-41 | | |
| | | Capacity | : | 250 t/h | | |
| | | Dimension | : | Width | 410 mm | |
| | | | | Length | 28,000 mm | |
| | | Motor | : | 15 kW | | |
| | | : | | | | |
| | | | | | | |

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| Item No. | |
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| B2050 | Bucket Elevator | | • • | | 1 set |
|--------|-----------------|----------|------------------|-------------------------------|-------|
| | Type | ; | Continuo | us | |
| | Capacity | : | 250 t/h | | : |
| | Dimension | . | Width | 300 mm (bucket) | |
| | | | Height | 17,500 mm | |
| | Motor | | 15 kW | | |
| B2060 | Air Slide | . · | n An teachtra | | 1 set |
| | Type | : | U-450 | | |
| | Capacity | : | 250 t/h | | |
| | Dimension | : | Width | 450 mm | |
| | | | Length | 40,000 mm | |
| B2070 | Bucket Elevator | | | · | 1 set |
| | Type | | Continuo | us | • . |
| | Capacity | | 250 t/h | | |
| | Dimension | : | Width | 300 mm (bucket) | |
| | | | Height | 40,000 mm | |
| | Motor | : | 37 kW | | 2 |
| B2080 | Two-way Damper | r | | | 1 set |
| | Capacity | : | | · · · | |
| | Dimension | : | Width | 450 mm | |
| | | | Length | 450 mm | |
| | | | Height | 1,000 mm | |
| | Motor | : | Motor cy | linder 0.75 kW | |
| | | | . 4. | | |
| B 2090 | Air Slide | | - | $(x_{i}) \in \mathcal{X}_{i}$ | 1 set |
| | Туре | : | U-450 | | |
| | Capacity | : | 230 t/h | | |
| | Dimension | : | Width | 450 mm | |
| | | | Length | 10,000 mm | |

| Item No. | | | | |
|---------------------|---------------|----|--|--------|
| <u></u> | | | | |
| B2100 | Air Slide | | | 1 set |
| | Type | | U-450 | |
| | Capacity | : | 250 t/h | |
| | Dimension | :. | Width 450 mm | |
| ÷ . | •. | | Length 6,000 mm | . , |
| | | | | |
| B2111 | Distributor | | | 1 set |
| ~ 6 | Туре | : | Air Slide | |
| н. Н | Capacity | : | 0 - 230 t/h | |
| | Consisting of | : | Gate damper | - |
| | | | Shut damper | |
| | | | | |
| B2121 | Air Slide | | | 6 sets |
| ∿ 6 | Type | : | U-450 | |
| | Capacity | : | 230 t/h | |
| | Dimension | : | Width 450 mm | |
| | | | Length 4,500 mm | |
| . • | | | | |
| B2201 | Roots Blower | | | 2 sets |
| ~ 2 | Capacity | : | $36 \text{ m}^3/\text{min} \ge 2,000 \text{ mmAq}$ | |
| | Motor | : | 22 kW | |
| | | | | |
| $B2211 \\ \sqrt{3}$ | Roots Blower | | • | 3 sets |
| 00 | Capacity | : | $18 \text{ m}^3/\text{min} \ge 2,000 \text{ mmAq}$ | |
| | Motor | : | 11 kW | |
| D 0000 | Donta Diawan | | | 1 |
| B2220 | Roots Blower | | $24 m^3 / min \times 2 000 mm A c$ | 1 set |
| | Capacity | • | $24 \text{ m}^3 / \text{min x} 2,000 \text{ mmAq}$ | |
| | Motor | : | 15 kW | |
| | | | | |
| | | | | |

| B 2230 | Roots Blower | | 1 set |
|----------------|--------------|--|--------|
| | Capacity | $12 \text{ m}^3/\text{min} \ge 2,000 \text{ mmAq}$ | |
| | Motor | 7.5 kW | |
| | | and the second | |
| B2241 | Fan | | 3 sets |
| ∿3 | Capacity | 18 m ³ /min x 650 mmAq | |
| | Motor | 3.7 kW | : |
| | | | |
| B2250 | Blower | | 1 set |
| | Capacity | 45 m ³ /min x 650 mmAq | |
| | Motor | 11 kW | |
| | · · | | |
| B2300 | Bag Filter | | 1 set |
| | Туре | Pulse jet | |
| | Capacity | 500 m ³ /min | |
| | Filter area | 250 m | |
| | | | |
| B2310 | Rotary Valve | | 1 set |
| | Capacity | 5 t/h | ÷. |
| | Dimension | Diameter 150 mm | |
| | Motor | 0.4 kW | |
| - ¹ | | | |
| B2320 | Fan | | 1 set |
| | Capacity | | |
| | Motor | 37 kW | |
| B2330 | Compressor | | 1 set |
| | | Rotary piston | |
| | Capacity | $3.4 \text{ m}^3/\text{min x 7 kg/cm}^2$ | |
| | Motor | 22 kW | |
| | | | |
| | | | |

| B 3000 | Blending Silo | set |
|-------------|--|--|
| 12 2000 | Type : RC made | |
| | Capacity : 6,000 t | |
| | Dimension : Diameter 18,000 mm | |
| · | Height 33,000 mm | |
| | Accessories : Gate damper, Motor damper etc. | |
| | Accessories , date damper, motor damper etc. | |
| B 3011 | Air Slide | i sets |
| D3011 ∿6 | | 0010 |
| Ū. | Type : U-400 Capacity : 180 t/h | · . |
| | Dimension : Width 400 mm | |
| | Length 2,500 mm | |
| | Dength 2,000 mill | |
| B 3020 | Air Slide | lset |
| D 3040 | | |
| | <i>v L</i> | |
| | Capacity : 200 t/h Dimension : Width 400 mm | |
| | Length 10,000 mm | |
| | | |
| B 3030 | Bucket Elevator | set |
| 0.0000 | Type : Continuous | |
| | Capacity : 200 t/h | • |
| | Dimension : Width 300 mm (bucket) | |
| | Height 26,500 mm | an a |
| | Motor : 22 kW | |
| | | |
| B 3101 | Roots Blower | sets |
| 00101 | Capacity : $36 \text{ m}^3/\text{min x } 2,500 \text{ mmAq}$ | |
| | Motor : 30 kW | |
| | Motor · Dourn | |
| B3110 | Blower | l set |
| DATTO | Capacity : $7 \text{ m}^3/\text{min x 650 mmAq}$ | |
| | Motor : 2.2 kW | |
| | | |

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X-1-5-3 Dust Equipment Department (B4000)

| Item No. | | | | | ag standard |
|------------|--------------------|-------|---------------------------|--|-------------|
| B4010 | Electrostatic Prec | ipita | tor | | 1 set |
| (Existing) | Туре | : | | orizontal gas flow, | |
| | | | flat panel | | |
| . : | Capacity | : | 5,800 m ³ /min | n at 110°C | |
| | Dimension | : | Width 8 | 3,130 mm | |
| · · · | | | Length 13 | 3,000 mm | |
| B4020 | E.P Fan | | | | 1 set |
| (Existing) | Type | : | Double sucti | on turbo | |
| | Capacity | : | 5,800 m ³ /min | 1 | |
| | Motor | : | 550 kW x 6P | | |
| | | | | | |
| B4031 | Screw Conveyor | | | en e | 3 sets |
| · ∿ 3 | Туре | : | U-200 | | |
| (Existing) | Capacity | : | 10 t/h | | |
| | Dimension | : | Diameter | 200 mm | |
| | | | Length | | |
| | Motor | : | 0.75 kW | | |
| | | * | | | |
| B4041 | Rotary Valve | | | | 3 sets |
| ~ 3 | Capacity | : | 10 t/h | | |
| (Existing) | Dimension | : | Diameter | 250 mm | |
| | | | Height | | |
| | Motor | : | 0.4 kW | | |
| | · · · · | | | | |
| B4050 | Screw Conveyor | | | | 1 set |
| (Existing) | Туре | : | U-300 | | |
| | Capacity | : | 10 t/h | | · |
| | Dimension | : | Diameter | 300 mm | • 1. |
| | Motor | • | 1.5 kW | · . | |

| B4060 | Trough Chain Cor | ivey | 70P The state of the second second | 1 set |
|------------|------------------------|------|---|-------|
| (Existing) | Type | : | U-150 | |
| | Capacity | : | 10 t/h | |
| | Dimension | : | Width 150 mm | |
| | Motor | : | 1.5 kW | |
| • | | | | · |
| B4070 | Bucket Elevator | | | 1 set |
| (Existing) | Туре | : | Continuous | |
| | Capacity | : | 10 t/h | |
| | Dimension | : | Width 360 mm | |
| | | | Height 11,000 mm | |
| | Motor | ; | 1.5 kW | |
| | | | | |
| B4080 | Trough Chain Cor | ivey | or | 1 set |
| | Туре | : | U-200 | |
| | Capacity | : | 20 t/h | |
| | Dimension | : | Width 200 mm | |
| | | | Length 4,000 mm | |
| | Motor | : | 2.2 kW | |
| | | | | |
| B4090 | Screw Conveyor | | | 1 set |
| | Type | : | U-400 ** | ÷ . |
| | Capacity | : | 20 t/h | |
| | Dimension | : | Diameter 400 mm | |
| | | | Length 11,000 mm | |
| | Motor | : | 2.2 kW | |
| | | | | |
| B4100 | Rotary Valve | | | 1 set |
| | Capacity | | 20 t/h | |
| | Dimension | : | Diameter 300 mm | |
| | Motor | : | 0.75 kW | |
| | | | | |
| | | | | |

| I | tem | No. |
|---|-----|-----|
| - | | |

| · · | | | | | |
|-----------|------------------|------|---------|---------------|--------------|
| Item No. | | | | | |
| | | | | | |
| B4110 | Trough Chain Con | ivey | vor | | 1 set |
| | Type | : | U-270 | | |
| | Capacity | ; | 20 t/h | | · · · |
| | Dimension | : | Width | 270 mm | |
| | | | Length | 31,000 mm | |
| | Motor | : | 3.7 kW | · · · · | |
| | | | | | · . · · · |
| B4120 | Trough Chain Cor | ivey | or a se | | 1 set |
| | Туре | : | U-270 | | |
| | Capacity | : | 20 t/h | | |
| · · · · | Dimension | : | Width | 270 mm | |
| | | | Length | 36,000 mm | |
| | Motor | : | 3.7 kW | | |
| | | | | | |
| 3 4 1 3 0 | Trough Chain Cor | ivey | or | | 1 set |
| | Type | ; | U-270 | | |
| | Capacity | : | 20 t/h | | |
| | Dimension | : | Width | 270 mm | |
| | | | Length | 8,000 mm | |
| | Motor | : | 1.5 kW | | |
| | | | | | |
| B4140 | Two-way Damper | | | | 1 set |
| | Capacity | : | 20 t/h | | |
| | Dimension | : | Width | 300 mm | |
| | | | Length | 300 mm | |
| | Motor | | - | linder 0.4 kW | |

X-1-5-4 Hot Gas Equipment (B5000)

| • | | |
|--------|--|-------|
| B5010 | Hot Gas Generator | 1 set |
| | Type : Horizontal cylindrical | |
| | Dimension : Diameter 2,500 mm | |
| | Length 3,000 mm | |
| - | Capacity : 800 kg-oil/h | |
| | | |
| B5020 | Fan | 1 set |
| | Capacity : 300 m ³ /min x 100 mmAq | |
| | Motor : 11 kW | |
| | | |
| B 5030 | Damper | 1 set |
| | Dimension : Diameter 800 mm | |
| | Motor : 0.75 kW | |
| | | |
| B5040 | Circulation Fan | 1 set |
| | Capacity : 9,500 m ³ /min x 950 mmAq at 110°C | |
| | Motor : 2,200 kW | |
| i. | | |
| B5050 | Damper | 1 set |
| | Dimension : Diameter 2,000 mm | |
| | Motor : 0.75 kW | |
| | | |
| B5060 | Damper | 1 set |
| | Dimension : Diameter 2,900 mm | |
| | Motor : 0.75 kW | |
| | | |
| B5070 | Damper | 1 set |
| | Dimension : Diameter 2,600 mm | |
| | Motor : 0.75 kW | |
| | · | |

| B5080 | Stabilizer | | | 1 set |
|-------|--------------|-----|---------------------------------|-------|
| | Туре | : | Vertical cylinder | |
| | Dimension | : | Diameter 7,000 mm | |
| | | т. | Height 30,000 mm | |
| | Volume of ap | ray | water: 20 t/h | |
| | | | | |
| B5090 | Pump | | | 1 set |
| | Type | ; | Turbine pump | |
| | Capacity | ; | 20 t/h x 30 kg/cm ² | ÷., |
| | Motor | • | 37 kW | |
| B5100 | Water Tank | | | 1 set |
| | Capacity | : | 10 t | |
| | Dimension | : | Diameter 2,500 mm | |
| | | | Height 2,500 mm | |
| | Accessories | : | Level indicator, level switches | |
| | | | | 1 . |

X-1-5-5 Raw Meal Feed to Kiln Department (C1000)

Item No.

| | | | . · · · · | | | |
|-------|------------------|-------|------------|-----------|---|-------|
| C1010 | Bin | | • | | | 1 set |
| | Capacity | : | 25 t | · · · | | |
| | Dimension | : | Diameter | 3,000 mm | · | |
| | | e e e | Height | 4,500 mm | , | |
| | Accessories | : | Load cell | indicator | | |
| C1020 | Rotary Feeder | | · · | · . | | 1 set |
| | Capacity | : | 200 - 20 t | :/h | | |
| | Dimension | : | Diameter | 500 mm | | |
| | Motor | : | 2.2 kW | • • | | |
| C1030 | Constant Feed We | eighe | er | | | 1 set |
| | Capacity | : | 200 - 20 t | /h | | |
| | Dimension | : | Width | 1,200 mm | | |
| | | | Length | 2,500 mm | | |
| | Motor | : | 1.5 kW | | | |
| C1040 | Air Slide | | | | | 1 set |
| | Туре | : | U-400 | | | |
| | Capacity | : | 180 t/h | | | |
| | Dimension | ; | Width | 400 mm | | |
| | | | Length | 17,000 mm | | |
| C1050 | Air Lift | | | | | 1 set |
| | Capacity | : | 180 t/h | | | |
| | Dimension of | vess | sel: | | | |
| | • · · | | Diameter | 1,250 mm | | |
| | | | Height | 6,000 mm | | |
| | | | | | | |

| $\begin{array}{c}{\rm C1061}\\{\scriptstyle\sim3}\end{array}$ | Roots Blower Capacity : 80 m ³ /min x 6,300 mmAq a | 3 sets at 30°C |
|---|--|-------------------|
| | Motor : 120 kW | 2 |
| | | |
| C1070 | Blower | 1 set |
| | Capacity : 18 m ³ /min x 650 mmAq | · |
| | Motor : 3.7 kW | |
| | | |
| C1080 | Expansion Joint various kinds of size | 14 sets |
| | | |
| | | |
| | | · |
| | | |
| | | · |
| | | |
| | | |
| | | |
| | | |
| | | · . |
| <u>.</u> | | |
| | | |
| | | |
| | | |
| | | |

Burning Department (D1000 - 3000)

Item No.

| | | · . | | | |
|--------------|------|----------------|----------|---|-------|
| D1010 | Indu | iced Draft Far | ı | | |
| | | Capacity | : | 7,000 m ³ /min x 690 mmAq at 330°C | |
| | | Motor | • | DC 1,200 kW x 6P | |
| | | Accessories | : | Suction damper with damper motor | · . |
| | | | | | |
| D1020 | NSP | Tower | | | |
| | | Туре | : | Steel structure | |
| | | Cyclone | ; | 5 stages | |
| | | Calciner | : | Burning ratio 30 - 50% | |
| | | | | | |
| D1030 | Kiln | | | | 1 set |
| (Modificatio | on) | Capacity | . | 2,600 t/d | |
| | | Dimension | : | Diameter 4,400 mm, 4,850 mm | |
| | | | | Length 71,500 mm | |
| | | Inclination | : | 3.987% | |
| | | Motor | • | VSM 190 kW x 2 sets | |
| | | | | | |
| D1040 | Kiln | Burner | | | 1 set |
| | | Туре | : | Coal & oil combination type | |
| | | Capacity | : | 10 t/h | |
| | | - | | | |
| D1050 | Cool | er | | | 1 set |
| | | Туре | : | Fuller type grate cooler | · · · |
| | | Capacity | : • | 120 t/h | |
| | | | 2. | | |
| D1060 | Clin | ker Breaker | | | 1 set |
| | | Туре | : | Impact type | |
| | | Capacity | • | 120 t/h | |
| | | Motor | : | 75 kW | |
| | | | | | |
| | | | | | |

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| D1070 | Spillage Conveyor | | | 1 set |
|-------|----------------------------|----------|---------------------------------------|--------------|
| | Capacity : | : | 55 t/h | |
| | Dimension : | | Width 450 mm | |
| | : (| | Length 24,000 mm | |
| | Motor : | : | 11 kW | |
| | | | | |
| D1080 | Flap Damper | | | 1 set |
| | Capacity : | : | 55 t/h | |
| | Dimension : | . | Width 450 mm | |
| | | | Length 450 mm | |
| | Motor : | ľ | 0.75 kW | |
| | | | | |
| D1090 | Cooler Fan | | | 1 set |
| | Capacity : | | 370 m ³ /min x 650 mmAq | |
| | Motor : | : | IM 55 kW x 6P | |
| | $(1,1) \in \mathbb{R}^{n}$ | | | |
| D1100 | Cooler Fan | | | 1 set |
| | Capacity : | | 570 m ³ /min x 600 mmAq | |
| | Motor : | | IM 110 kW x 4P | |
| | | | · · · · · · · · · · · · · · · · · · · | |
| D1110 | Cooler Fan | | | 1 set |
| | Capacity : | | 750 m ³ /min x 500 mmAq | |
| | Motor : | | IM 110 kW x 4P | |
| | | | | ,÷ |
| D1120 | Cooler Fan | | | 1 set |
| | Capacity : | | 750 m ³ /min x 450 mmAq | |
| | Motor : | | IM 90 kW x 4P | |
| | | | | · . · · |
| D1130 | Cooler Fan | | | 1 set |
| | Capacity : | | 1,450 m ³ /min x 400 mmAq | |
| | Motor : | | IM 160 kW x 4P | · |
| | | | | у |

| | | | 1 |
|-------------------|------------------------|--|--------|
| D1140 | Cooler Fan | | 1 set |
| | Capacity | : 1,810 m ³ /min x 250 mmAq | |
| | Motor | : IM 130 kW x 4P | |
| | | | |
| D1150 | Primary Air Fan | | 1 set |
| | Capacity | : 160 m ³ /min x 900 mmAq at 30°C | |
| | Motor | : IM 45 kW x 6P | |
| • • • | | | |
| D1160 | Shell Cooling Fan | | 1 set |
| | Capacity | : $150 \text{ m}^3/\text{min} \times 75 \text{ mmAq}$ | |
| | Motor | ; 3.7 kW | |
| | | | |
| D1211 | Expansion Joint for | r Cooler Exhaust Gas Duct | 4 sets |
| - ∿4 | Dimension | : Diameter 2,200 mm | · · |
| | | | |
| D1221 | Expansion Joint | | 9 sets |
| `∿ 9 | Dimension | : Diameter 2,000 mm | |
| | | for recouped duct | |
| • | | | |
| D2010 | Electric Precipitato |)r | 1 set |
| | Туре | : Dry type, horizontal gas flow, | |
| | | flat panel | |
| | Capacity | : 5,800 m ³ /min at 250°C | |
| | | | |
| D2100 | E.P Fan | | 1 set |
| | Туре | : Double suction turbo | |
| | Capacity | : $5,800 \text{ m}^3/\text{min x } 150 \text{ mmAq at } 250^{\circ}\text{C}$ | |
| | Motor | : 210 kW | |
| | | | |
| $D2111 \\ \sim 2$ | Rotary Valve | | 2 sets |
| .02 | Capacity | : 15 t/h | |
| | Dimension | : Diameter 150 mm | |
| | Motor | : 0.75 kW | |
| | | | |

| D2120 | Screw Conveyor | | | | | 1 set |
|------------|------------------|------|----------|------------|---------|-------|
| · . | Туре | : | U-250 | | · · · · | · · · |
| | Capacity | : | 15 t/h | | 4 | |
| | Dimension | : | Diameter | 250 mm | | |
| | | | Length | 8,000 mm | | |
| | Motor | 1 | 2.2 kW | | | |
| | | | | . : | | |
| D3010 | Drag Chain Conve | eyor | | · · | | 1 set |
| | Capacity | : | 120 t/h | | | |
| | Dimension | : | Width | 700 mm | | · |
| | | | Length | 40,000 mm | | |
| | Motor | : | 37 kW | | | |
| | | | | | | |
| D 3020 | Bucket Conveyor | | | | | 1 set |
| (Existing) | Capacity | : | 100 t/h | | · · · | |
| | Dimension | : | Width | 700 mm | | |
| | | | Length | 7,500 mm | | |
| | Motor | : | 3.7 kW | | | |
| | | | | | | |
| D 3030 | Bucket Conveyor | | | · · · · | · | 1 set |
| (Existing) | Capacity | : | 100 t/h | | · . | |
| | Dimension | : | Width | 700 mm | | |
| | Motor | : | 7.5 kW | | | |
| | | | | | | |
| D3040 | Belt Conveyor | | | | | 1 set |
| (Existing) | | : | 3 roller | | | |
| | Capacity | : | 70 t/h | : | | |
| | Dimension | : | Width | 500 mm | | |
| | | | Length | 100,000 mm | | |
| | Motor | : | 11 kW | · . | | |
| | | | | · . | | |
| | | | · | | | |
| | | | | | | |
| | | | | | | |

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| D3050 | Belt Conveyor | | | · . | 1 set |
|------------|---------------|---|----------|-----------|-------|
| (Existing) | Туре | : | 3 roller | | |
| | Capacity | : | 140 t/h | . · · | |
| | Dimension | : | Width | 600 mm | |
| | | | Length | 50,000 mm | |
| | Motor | : | 3.7 kW | | |

X-1-5-7 Coal Equipment Department (E1000)

Motor

(Existing)

Item No. E1010 Receiving Hopper 1 set

1 set Apron Conveyor E1020 Heavy duty type (Existing) Type : Capacity 65 t/h : 710 mmDimension Width ÷ 4,930 mm Length 7.5 kW Motor : 1 set E1030 Belt Conveyor 3 roller Type (Existing) : 80 t/h Capacity : Width Dimension 2

| E1040 | Hopper | | | 1 set |
|------------|----------------|---|---------------|-------|
| (Existing) | Туре | : | Two way chute | |
| | Capacity | : | 40 t/h | |
| E1050 | Chain Conveyor | | | 1 set |

Length 15 kW

1

| E1050 | Chain Conveyor | | | | 1 set |
|------------|----------------|---|------------|----------|-------|
| (Existing) | Capacity | : | 3 - 30 t/h | | |
| | Dimension | : | Width | 1,010 mm | |
| | | | Length | 4,545 mm | • |
| | Motor | : | 7.5 kW | | |

| · · | | | |
|------------|----------------|---------------------------------------|--------|
| E1060 | Rotary Feeder | | 1 set |
| (Existing) | | | |
| . * | | | |
| | | | 1 |
| E2010 | Coal Mill | · · · · · · · · · · · · · · · · · · · | 1 set |
| (Existing) | Туре | : RMK 19/9/26 | |
| | Capacity | : 15 t/h | |
| | Motor | : IMW 230 kW | |
| | | | · |
| E2030 | Cyclone | | 1 set |
| (Existing) | | : 800 m ³ /min | |
| | | | |
| E2040 | Rotary Valve | | 1 set |
| (Existing) | | : 15 t/h | , |
| (Bristing) | Motor | : 0.75 kW | |
| | motor | | |
| | | | - · |
| E2050 | Screw Conveyor | | 1 set |
| | Туре | : U-350 | |
| | Capacity | : 15 t/h | |
| | Dimension | : Diameter 350 mm | |
| | | Length 7,000 mm | |
| | Motor | : 2.2 kW | • |
| | | | |
| E2081 | Bag Filter | | 2 sets |
| ~ 2 | Type | : Pulse jet | |
| | Capacity | $: 400 \text{ m}^3/\text{min}$ | |
| | Filter area | $: 240 \text{ m}^2$ | |
| | Screw Conveyor | | 2 sets |
| | Туре | : U-250 | |
| | Capacity | : 7.5 t/h | |
| | ** * | | |

•

| Item No. | | | | | | | • . |
|----------|------------------------|----------|---------------------------------------|-------------------|-----|---------|--------|
| | | | | | | | |
| | Dimension | : | Diameter | 250 mm | | | |
| | | | Length | 7,000 mm | | : · · · | 19 - P |
| | Motor | : | 2.2 kW | | | - | |
| | | | | | | | |
| E2091 | Rotary Valve | | | · . | | 2 | sets |
| ~ 2 | Capacity | : | 7.5 t/h | · · · · | • | × * | 2 |
| | Dimension | : | Diameter | 250 mm | | | |
| | Motor | : | 0.75 kW | | | | • |
| | | | | | | | |
| E2100 | Screw Conveyor | | | | | 1 | set |
| | Type | : | U-350 | | . * | · . | |
| | Capacity | : | 15 t/h | · · · . | | | |
| • • | Dimension | : | Diameter | 350 mm | | | |
| | | | Length | 11,000 mm | | | · . |
| | Motor | : | 3.7 kW | | | | |
| | | | • | | | | |
| E2110 | Flow Conveyor | | | | | 1 | set |
| | Capacity | : | 15 t/h | | | | |
| | Dimension | : | Width | 350 mm | | | |
| | | · | Length | 12,000 mm | | | |
| | | 1 | Height | 11,500 mm | | | |
| - | Motor | : | 15 kW | the second second | · | | |
| | an an an an tha tha sh | | | | | | |
| E2120 | Fine Coal Tank | | $(x_i, \beta_i) \in \mathbb{R}^{n-1}$ | | | 1 | set |
| | Type | : | Steel mad | e | | | • |
| | Capacity | : | 25 t | | | | |
| | Dimension | : | Diameter | 2,800 mm | | | |
| | · · · · | | Height | 6,300 mm | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | · | |
| | | | | | | | |

| E2160 | Exhaust Fan | | | 1 set |
|------------|---------------|------|---|--------|
| (Existing) | Type | : | HF3S | |
| | Capacity | : | 800 m ³ /min x 2,400 mmAq | |
| · . | Motor | : | IM 450 kW | |
| | Control damp | er: | Hydraulic electro actuator | |
| | | | | |
| E2200 | Compressor | . • | and the second secon | 1 set |
| | Туре | : | Screw type | |
| | Capacity | : | 3.4 m ³ /min x 7 kg/cm | |
| | Motor | : | 22 kW | - |
| | | | | |
| E2210 | Receiver Tank | | and the second second | 1 set |
| | Туре | : | Vertical type | |
| | Capacity | : | $0.4 \text{ m}^3 \times 7 \text{ kg/cm}^2$ | |
| | | | | |
| E3011 | Rotary Feeder | | | 2 sets |
| ~ 2 | Capacity | : | 15 t/h | 1. N |
| | Dimension | : | Diameter 350 mm | |
| | Motor | : | 0.75 kW | 1 t |
| * | | ÷ . | | |
| E3021 | Fine Coal Bin | | | 2 sets |
| ~ 2 | Type | : | Steel made | |
| 1 | Capacity | : | 5 t | (1,2) |
| · . · | Dimension | : | Diameter 1,800 mm | |
| | | | Height 3,100 mm | |
| | Accessories | : | Cut damper with air cylinder | |
| 1 | | | | |
| E3051 | Impact Line | - | | 2 sets |
| ~ 2 | Туре | : | ILE-37 | |
| | Capacity | : | Max. 10 t/h | |
| | Feeder accura | aev: | ±1% | |

Feeder accuracy: ±1%

| Item | No. |
|------|-----|
| | |

| | | | | | 0 |
|-----------------------|---------------|-----|-----------------------------|---|-----------|
| E3061 ∿2 | Chamber | | | 4 000 | 2 sets |
| · · · | Dimension | : | Diameter | 1,000 mm | |
| | | | Height | 1,000 mm | |
| • | | | | | |
| $	 E 3071 \ 	 \sim 2$ | Rotary Valve | | | | 2 sets |
| 10 2 | Capacity | : | 10 t/h | | |
| на стала <u>с</u> | Dimension | : | Diameter | 300 mm | · · · · |
| | Motor | : | 0.4 kW | | |
| | | | • | · · · · · | |
| E3081 | Rotary Valve | | | the second se | 2 sets |
| ~ 2 | Capacity | : | 10 t/h | | |
| | Dimension | : | Diameter | 300 mm | |
| | Motor | . : | 0.4 kW | | |
| | | | | | |
| E3091 | Roots Blower | | . * | | 1 set |
| | Capacity | ; | 50 m ³ /min | x 3,000 mmAq | • . |
| | Motor | ; | 37 kW | | |
| | 6 (N - 1 | | | | |
| E3092 | Roots Blower | | | · | 1 set |
| | Capacity | : | 80 m ³ /min | x 3,000 mmAq | |
| | Motor | : | 45 kW | | · · · · · |
| | | | | | |
| E3093 | Roots Blower | | | : | 1 set |
| | Capacity | : | $80 \text{ m}^3/\text{min}$ | x 2,500 mmAq at 30°C | |
| | Motor | : | 45 kW | | |
| | · · · · · · · | | · · · · · · | | |
| E3100 | Bag Filter | | | | 1 set |
| | Туре | : | Pulse jet | | |
| | Capacity | : | 15 m ³ /min | | |
| | Filter area | • | 16 m ² | • | |
| | | • | | | |

| Fan | | 1 set |
|--------------------|---|--|
| Capacity | : 15 m ³ /min x 200 mmAq | |
| Motor | 1.5 kW | |
| | | |
| Rotary Valve | | 1 set |
| Capacity | : 1 t/h | |
| Dimension | Diameter 150 mm | |
| Motor | 0.75 kW | |
| · | | 1. ¹ . 1 |
| Screw Conveyor | | 1 set |
| Туре | u-200 | |
| Capacity | : 1 t/h | |
| Dimension | : Diameter 200 mm | |
| | Length 4,000 mm | |
| Motor | : 0.75 kW | |
| | | |
| Receiver Tank | | 3 sets |
| Туре | : Steel made | |
| Capacity | $1.1 \text{ m}^3 \text{x} 7.0 \text{ kg/cm}^2$ | |
| Dimension | Diameter | |
| | Height | |
| | | |
| Cut Gate | | 2 sets |
| Dimension | : 250 mm | |
| | with air cylinder | |
| | | |
| Portable Compresso | r | 1 set |
| v - | | |
| Capacity | $75 \ \text{min x 7 kg/cm}^2$ | |
| Motor | : 0.75 kW | |
| | Capacity Motor Rotary Valve Capacity Dimension Motor Screw Conveyor Type Capacity Dimension Motor Receiver Tank Type Capacity Dimension Cut Gate Dimension Cut Gate Dimension | Capacity : 15 m³/min x 200 mmAq Motor : 1.5 kW Rotary Valve Capacity : 1 t/h Dimension : Diameter 150 mm Motor : 0.75 kW Screw Conveyor Type : U-200 Capacity : 1 t/h Dimension : Diameter 200 mm Length 4,000 mm Motor : 0.75 kW Receiver Tank Type : Steel made Capacity : 1.1 m³x 7.0 kg/cm² Dimension : Diameter Height Cut Gate Dimension : 250 mm with air cylinder Portable Compressor Type : Oil free Capacity : 75 %/min x 7 kg/cm² |

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| E4010 | Cyclone | | 1 set |
|--|----------------------|---------------------------------|--------|
| (Existing) | Capacity : | 80 m ³ /min | |
| | | | |
| E4020 | Rotary Valve | | 1 set |
| (Existing) | Capacity : | 3 t/h | |
| | Dimension : | Diameter 200 mm | |
| | Motor : | 0.4 kW | |
| | | | |
| E5010 | Raw Meal Tank | | 1 set |
| | Type : | Steel made | · · |
| | Capacity : | 3 t | |
| | Dimension : | Diameter 1,800 mm | |
| | | Height 3,000 mm | |
| | Accessories : | Level indicator, level switches | |
| | | | |
| E5020 | Bag Filter | | 1 set |
| 1945 - S. 1947 - | Type : | Mənual | |
| | Capacity : | $20 \text{ m}^3/\text{min}$ | |
| | Filter area : | 4 m ² | |
| | | | |
| E5030 | Screw Conveyor | | 1 set |
| | Type : | U-200 | |
| | Capacity : | 10 t/h | |
| | Dimension : | Diameter 200 mm | |
| | | Length 3,000 mm | |
| | Motor : | 1.5 kW | |
| | | | |
| E5040 | Rotary Valve | · · · | 1 set |
| | Capacity : | 13 t/h | |
| | Dimension : | Diameter 250 mm | |
| | Motor : | 0.4 kW | |
| | | | |
| E5051 ~6 | Expansion Joint (for | coal grinding duct) | 6 sets |

E5051 ∿6

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X-1-6 Electrical equipment (including instruments)

X-1-6-1 Power factor improving equipment

| Quantity | : | 1 set |
|--------------------|---|----------------------------|
| Туре | ; | Indoor, enclosed type |
| Main specification | | AC 4.16 kV, 60 Hz, 3 phase |
| | | Improved by 95% lag |

Consisting of;

1 - Capacitor cubicle, 6,000 kVA

1 - Series reactor

1 - Discharging coil

1 – High voltage switchgear

1 - Control equipment

Installation place : Existing power house

X-1-6-2 Power distributing equipment

(1) Major equipment

 High voltage switchgear
 Power transformer 4.16 kV/440 V (diverted existing transformer)
 Lighting transformer 4.16 kV/220 V (diverted existing transformer)
 Low voltage distributing board
 Motor control center

(2) Installation place

- 1 Electric room for Raw Material Grinding Dept.
- 1 Electric room for Burning Dept.

1 - Electric room for Coal Grinding Dept.

X-1-6-3 Motors

| Or an title | 1 1 hot |
|-------------------------|---|
| Quantity | : 1 lot |
| Main specification | |
| Protection | - Totally enclosed, dust proof type for |
| | low voltage motors of general use |
| | - Drip proof type for motors except the |
| | above |
| Voltage | - 4.16 kV for motors exceeding 94 kW |
| | - 440 V for motors 94 kW of smaller |
| | - 220 V for single phase small motors and |
| · | for control motors |
| Insulation class | - class B or F for high voltage motors |
| | class B, E or F for low voltage motors |
| Temperature rise | - The design ambient temperature is 45°C. |
| Motors for special | purpose |
| . · · | - DC motor, for kiln drive and ID fan |
| | - Wound rotor type motor, for motors 230 |
| | kW or larger |
| | - Low voltage induction motor with eddy |
| | current coupling, for variable speed |
| | drive |
| | - Gear motor, for low speed drive |
| | |
| Existing motors to be d | liverted: |
| 1 - Motor | for Raw Mill, 2,100 kW 6P |
| 1 - Motor | for EP Fan, 550 kW 6P |
| 1 - Motor | for Kiln, Generator, 1 - 500 kW 4P |
| | Motors, 2 - 190 kW DC |
| 1 - Motor | for Coal Mill, 230 kW 4P |
| | for Exhaust Fan |
| | Coal Mill, 450 kW 6P |
| | |
| | |

X-1-6-4 Central control panel (including instruments)

and the second state of th

| Quantity | : 1 set | | |
|---|---|--|--|
| Type | : Indoor-use, dust proof, benchboard type inclusive | | |
| of instruments, graphic panel, lamps, alarms etc. | | | |

X-1-6-5 Local control switchboard

| | | · · · · · · · · · · · · · · · · · · · | |
|----------------------------------|--------------------------|---------------------------------------|--|
| Quantity | : 1 lot | | |
| Туре | : Indoor or outdoor use, | dust proof, wall-mounting | |
| type inclusive of control switch | | | |

X-1-6-6 General instruments

| | | | · | | | | |
|---|-------------|-------|-----------|----------|-------|--------|------------|
| • | Quantity | : | 1 lot | · · · | | | |
| | Туре | : | Indoor or | outdoor | use, | dust j | proof type |
| | Input and o | outpu | t signal: | DC 4 - 2 | 20 mA | of DC | 1 - 5 V |

X-1-6-7 Lighting equipment

(1) Guide for illumination level

Indoor (on working surface)

| Control room | 300 - 600 lx. |
|---------------|------------------|
| Working place | more than 50 lx. |

Outdoor

| Working place | more than 50 lx. |
|----------------|------------------|
| Roads, storage | more than 10 lx. |

(2) Main specification

| Distributing board | - Sheet metal, wall-mounting type |
|---------------------|-----------------------------------|
| | AC 220V 60 Hz |
| Mercury vapour lamp | - Improved power factor type |
| | AC 220V 60 Hz, 200-1,000W, for |
| | outdoor and indoor illumination |

| Fluorescent lamp | - Improved power factor type |
|------------------------|------------------------------------|
| | AC 220V 60 Hz, 10-60W, for indoor |
| · . | general and emergency illumination |
| Incandescent lamp | - AC 220V 60 Hz, 100-200W, for |
| | spot illumination |
| Distributing board for | repairing works - |
| | Sheet metal, wall-mounting type |
| | AC 440/220V, 60 Hz |
| Socket and outlet | - 2P 15A, 3P 60A or more |

X-1-6-8 Communication facilities

| Quantity | : | 1 lot | | | ÷ | · · | | |
|--------------|---|-------------|-----------|---------|------|-----------|----|---|
| Туре | : | Sheet metal | , wall-mo | ounting | type | inclusive | of | a |
| | | switch, lam | p and be | 11 | | | | |
| Power source | : | AC 220V 6 | 60 Hz | | | | | |
| | | | | | 1 | | | |

X-1-6-9 Wiring and piping works

(1) Cables

Main specification:

- High tension cables for 6.6 kV:

Butyl rubber insulated polychloroprene sheathed cable (existing) and cross-linked polyethylene insulated PVC sheathed cables (planned) for indoor or outdoor, and PVC insulated wire (existing) and polyethylene insulated wire (planned) for outdoor aerial line with 22mm square or more.

- Low tension cables for 600V:

The cables mentioned above and PVC insulated PVC sheathed cable with 3.5mm square or more

- Control cables for 600V:

PVC insulated PVC sheathed cable with 2mm square

- Grounding wires:

600V PVC insulated wire

(2) Outdoor wiring system

Main specification:

| | and the second |
|----------------|--|
| - Main route | - Aerial line with existing wire way |
| | (8-12m above ground level), and cable |
| | rack system on steel lattice structure |
| | (5m of more above ground level) |
| - Branch route | - Under-ground concrete trough system |

or directly embedded conduit system

(3) Indoor wiring system

Main specification:

| | 1.1 | | · · · · | 11 - 11 - 11 - 11 - 11 - 11 - 11 - 11 | | | | |
|----------|----------|------------|---------|---------------------------------------|---------------|-------|-----|--------|
| Main | route | - Cable | rack | system | \mathbf{or} | cable | pit | system |
| | | on the | floor | | | | | |
| 13 | 1 | a 1 | •• | | | | | |

- Branch route - Conduit system

(4) Grounding circuit

Main specification:

- Loop system consisting of copper grounding rods and wires network system

X-2 Capital Requirement

X-2-1 Basic Premise

The total capital requirement and financing plan for the renovation is described in this Section. The basic premises for calculation of capital requirement are as follows:

(1) Basic price

The prices and costs prevailing at the time of field survey in January, 1986 is applied and therefore no escalation is considered in the calculation. The same is applied to the calculation of construction cost.

(2) Exchange rate

Philippine currency portion is calculated in Peso(P), and foreign currencies, both Japanese Yen (Y) and US\$ are converted into Peso by using the exchange rate as of January, 1986 as described below:

> 1 U.S.Dollar (US\$) =19.103 Peso 1 U.S.Dollar (US\$) = 192.05 Yen

(3) Scope of the total capital requirement

Total capital requirement includes the capital for renovation of Antipolo plant and that for conversion of electricity power source from MERALCO to NPC.

X-2-2 Total Capital Requirement

The total capital requirement is the total cost invested by the time when the commercial operation starts. The following table shows the results of calculation of the total capital requirement. (As to the details, refer to Table 10-2-2 and 10-2-3).

Table 10-2-1 Total Capital Requirement

| · | · · · · · · · · · · · · · · · · · · · | | (1,000 Pesos) |
|-----------------|---------------------------------------|---------------|---------------|
| | Foreign Portion | Local Portion | Total |
| Fixed capital | 415,818 | 304,210 | 720,028 |
| Working capital | 0 | 5,154 | 5,154 |
| Total | 415,818 | 309,364 | 725,182 |

(1) Fixed capital requirement

In this study, the fixed capital requirement is defined as a sum of costs and expenses for plant equipment, ocean freight, inland transportation, erection of plant, civil works, engineering fee and contingency.

Interest during construction is capitalized and calculated in the fixed capital cost.

Table 10-2-2 shows the breakdown of the fixed capital requirement.

Table 10-2-2 Fixed Capital Requirement

| | Foreign Portion | Local Portion | Total |
|------------------------------|-----------------|---------------|---------------------------------------|
| Construction cost | | | · · · · · · · · · · · · · · · · · · · |
| 1) Machinery & Equipment | 253,600 | 67,000 | 320,600 |
| 2) Ocean freight | 25,000 | 0 | 25,000 |
| 3) Inland transportation | 0 | 12,000 | 12,000 |
| 4) Erection work | 0 | 81,150 | 81,150 |
| 5) Civil & construction work | 41,000 | 89,000 | 130,000 |
| 6) Engineering fee | 42,650 | 5,000 | 47,650 |
| 7) Contingency | 12,000 | 19,200 | 31,200 |
| (Sub-total) | (374,250) | (273,350) | (647,600) |
| Interest during construction | 41,568 | 30,860 | 72,428 |
| Total | 415,818 | 304,210 | 720,028 |

(1,000 Pesos)

(i) Machinery & Equipment

The cost of machinery and equipment for the renovation is included in this item.

(ii) Ocean freight

The cost for ocean freight of machinery and equipment is estimated on the Manila-Japan basis.

(iii) Inland transportation

The inland transportation cost is the cost required for the transportation of imported equipment and materials from the unloading port to the plant site.

(iv) Erection work

and the second second second second second

This expense consists of the cost for the field works such as transport, storage, assembly and erection of the plant equipment at the plant site, and the cost for the equipment and materials necessary for the field works.

(v) Civil work

The costs required for land preparation, buildings, foundation, concrete and housing are estimated in the civil work cost.

(vi) Engineering fee

The engineering fee and supervising fee required for the renovation are estimated in this item.

(vii) Contingency

The contingency is estimated to be about five(5) percent of the sum of items (i) to (vi).

(viii) Interest during construction

The interest during construction is included in the fixed capital cost.

(2) Working capital

The working capital means the funds required to continue daily activities. Normally, the working capital is defined as a total of operating cash, raw materials, product inventories and account receivable minus account payable. However, ICC plant is now under operation and necessary inventories of raw materials and products are already prepared.

Therefore, if the control of inventory is carried out properly, the present inventory will meet the requirement after renovation. Additional working capital may not be required.

Due to the change of wet process into dry process, raw meal (slurry) is not required, but raw meal under dry process is newly required. Considering the above, the additional working capital is estimated as about one(1) percent of direct cost.

Table 10-2-3 shows the average amount of inventory for 3 months from October to December 1985, and stocks for operation (days) at full production after renovation.

| | <u> </u> | |
|-------------------|-----------|--------|
| | Inventory | Stock |
| | (t) | (days) |
| Raw Materials | | |
| Limestone | 52,447 | 15.3 |
| Hi-silica | 10,278 | 32.8 |
| Lo-silica | 11,179 | 29.7 |
| Pyrite cinder | 1,993 | 30.3 |
| Gypsum | 8,641 | 61.3 |
| Pozzolan | 1,127 | 2.9 |
| Consumables | | |
| Coal | 2,358 | 6.4 |
| Paper bag | 17,182 | 5.5 |
| Raw meal (slurry) | 4,594 | 1.5 |
| Clinker | 8,193 | 2.6 |
| Product | | |
| Cement | 3,919 | 1.3 |

Table 10-2-3 Inventory and Stock to Last

X-2-3 Financing Plan

The total capital requirement is assumed to be covered by long-term loan under the following conditions:

(1) Long-term loan

(i) Long-term (foreign currency) loan

85 percent of the foreign portion and local portion equivalent to 15 percent of the foreign portion is to be covered by long-term (foreign currency) loan. The conditions are as follows:

| (a) | Interest rate | : | 118 p.a. |
|-----|------------------------|---|--|
| (b) | Repayment of principal | : | 10 installments/10 years equal annual payment |
| (c) | Grace period | | 0 year (after start of commercial operation) |

(ii) Long-term (local currency) loan

The capital requirement which is not covered by long-term (foreign currency) loan is assumed to be financed by long-term (local currency) loan under the following conditions:

| (a) | Interest rate | : | 12% p.a. |
|-----|------------------------|---|--|
| (b) | Repayment of principal | : | 5 installments/5 years equal annual payment |
| (c) | Grace period | : | 0 year (after start of commercial operation) |

The interest during construction period for long-term loan is assumed to be deferred till the first year of repayment. (2) Short-term loan

 (i) Short-term loan is borrowed when cash position shows deficit or the working capital is increased. The conditions for short-term loan is as follows:

(a) Interest rate
(b) Repayment of principal
(c) The debt is to be paid back in the year when cash portion shows surplus

Table 10-2-4 shows the summary of financing plan.

Table 10-2-4 Financing Plan

| | (1,000 Pesos) |
|-----------------------------------|---------------|
| Item | Amount |
| Long-term (foreign currency) loan | 415,818 |
| Long-term (local currency) loan | 304,210 |
| Short-term (local currency) loan | 5,154 |
| Total | 725,182 |

X-3 Implementation Schedule

The schedule of the main work - after conclusion of the construction contract between owner and contractor - is described below.

Prior to conclusion of the contract, the following preparation period is necessary.

| Preparation of tender documents | 2 months |
|-------------------------------------|----------|
| Preparation of tender by contractor | 2 months |
| Evaluation of tender | 2 months |
| Negotiation and award of contract | 2 months |
| Total | 8 months |

It is recommended that consultants be hired to perform the preparation work and to supervise the construction.

X-3-1 Breakdown of Work

In order to implement this work, it is necessary to clarify and breakdown the work to be performed in the Philippines and the work to be performed in overseas countries.

X-3-1-1 Local Portion

Civil & building construction

All civil & building construction work, excluding design and supply of all materials, excluding steel frames for the tower.

Mechanical work

Manufacture and installation of prefabricated equipment (hopper, duct, tank, cyclone, inspection platform, frame, chute, pipe, etc.).

Installation of machinery and equipment, Supply of small parts, materials for fabrication and construction

Electrical work

Installation of electrical equipment (imported equipment) and execution of electrical work.

Supply of materials for construction and installation of electrical equipment such as cable, pipe, supporting fixture, small electrical parts and construction materials.

Others

Provision of temporary work, heavy equipment, construction materials, management of work, materials and supplies and supply as well as installation of material and equipment necessary for the work that are not included in the overseas portion.

X-3-1-2 Overseas Portion

Civil & building construction

Provision of design, supply of tower frame & parts and supervision.

Mechanical work

Provision of design, supply of main equipment & critical parts and supervision.

Electrical work

Provision of design, supply of control panel, electric motor, instrument, lighting equipment, etc. and supervision.

X-3-2 Work Schedule (refer to addendum)

The work schedule may be broken down into the indirect work conducted in Japan, including design, determining specification of machinery & equipment and procuring machinery & equipment, and the direct construction work conducted locally.

X-2-21 Indirect Work

Indirect work includes design together with ordering, manufacturing, inspecting and shipping machinery & equipment which may be performed parallel to designing. The maximum delivery period for locally procured machinery & equipment is expected to be about eight months. The machinery & equipment supplied from overseas are expected to be delivered in one shipment by sea and land to the site 13 months after designing is started.

X-3-2-2 Local Work Schedule

The first work, after the contractor enters the site, will be disassembling and removing No.1 kiln and associated equipment (part of brick lining & kiln shell, No.1, 2, 6, 7 roll paltforms, cooler, etc) which is expected to start in the fifth month after contract and to last about 4 months.

Civil construction, including disassembling and removing is expected to take 13 months, and mechanical work which is expected to start in the 14th month after contract (after machinery & equipment reaches the site) and is expected to be completed in 10 months. Electrical work will progress parallel with mechanical work and the last one month will be the testing period for both mechanical and electrical equipment. During this one month test period, the existing electrical equipment will be changed over to the new equipment, therefore the No.2 kiln must be shut down during this period.

X-3-2-3 Operation During Construction

The No.1 kiln may be operated until disassembly work commences (4 months after contract), furthermore the No.2 kiln may be operated during the construction period (23 months after contract). However, since slurry silos will be converted to raw material silos, the No.2 kiln must be operated by using only 4 silos among the 9 silos and after No.2 kiln is shut down, additional 4 silos will be converted to raw material silos. Consequently prior to the rehabilitation work, the slurry pipeline for the slurry silo of No.2 kiln must be changed when No.2 kiln is not in operation. The conversion of the additional 4 slurry silos will be performed during the first shut-down period after commissioning, so the final construction work will be extended up to this time.

Name of Project: ICC Renvation Project

WORK SCHEDULE

Legend :

Months Date 14 15 16 17 18 19 20 21 22 10 12 13 11 8 9 1 2 3 4 5 6 7 Item Contract civil Mechanica Başic Design Electrica Transportation Procurement Erection Earth work Foundation Temporary work NSP Tower & Kiln Refractory Manufacture tower Manufacture cyclone Cylindrical wall Foundation Raw Meal Silo Structure Election Erection Steel erection Duct Foundation Raw Mill Mill etc. erection Insulation Concrete work Control room Alteration Cooler Coller erection Duct Insulation E.P erection Cooler & Recouped Duct Refractory Electric works Electric works

No.: Date: <u>Apr. 9, 1986</u>

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SECTION XI EVALUATION

XI-1 Financial Analysis

XI-1-1 Premise for Financial Analysis

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In this section, the production cost of cement after renovation is analyzed and the financial profitability of this renovation is evaluated by comparing the revenue and the cost before and after renovation.

In this financial analysis, the construction period before the start of commercial operation and operation life of plant is considered to be 2 years and 20 years respectively.

The profit and loss statement before and after renovation and cash flow statement formulating the difference before and after renovation are prepared. And the profitability of the renovation is assessed by the calculated value of financial internal rate of return (FIRR) of the capital requirement for the renovation.

The working kiln is considered to be No.1 and No.2 kiln before renovation, and only No.1 kiln after renovation. The production of clinker is assumed as 2,600 t/d. The major premises for financial analysis, disbursement schedule of total capital requirement, sales plan, production cost, results of financial analysis and sensitive analysis are described hereinafter.

XI-1-2 Basic Premises for Financial Analysis

(1) Project life

Construction period: 2 yearsCommercial operation period: 20 years

- (2) Plant capacity
 - (i) Kiln to be operated

Before renovation : No.1 kiln, No.2 kiln After renovation : No.1 kiln

- (ii) Production of clinker : 780,000 t/year (2,600 t/d)
- (iii) Production of cement
 - Case I :

 Ordinary portland cement/Pozzolan cement: 50/50(%)

 Ordinary portland cement : 469,880 t/y (1,566 t/d)

 Pozzolan cement : 469,880 t/y (1,566 t/d)

 Total : 939,760 t/y (3,132 t/d)

Case II :

| Ordinary portland cement | /P | ozzolan cemer | nt: 80/20(号) |
|--------------------------|----|---------------|--------------|
| Ordinary portland cement | : | 689,500 t/y | (2,298 t/d) |
| Pozzolan cement | : | 172,380 | (575 t/d) |
| Total | : | 861,880 t/y | (2,873 t/d) |

(3) Operation rate

300 days per year at 100% operation Considering the expected sales volume of ICC (refer to Section III-3) the operation rate for Case I and Case II is assumed as follows:

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| Case Year | Case I | Case II | Case Year | Case I | Case II |
|-----------------|--------|---------|---------------------------------------|----------|--|
| ve v = 1 | 68(%) | 74(%) | 11 | 85(%) | 93(%) |
| 2 | 69 | 76 | 12 | 87 | 95 |
| 3 | 71 | 78 | 13 | 89 | 97 |
| 4 | 73 | 80 | 14 | 91 | 99 |
| 5 | 75 | 81 | 15 | -93 | 100 |
| 6 | 77 | 83 | 16 | 95 | 100 |
| 7 | 78 | 85 | 17 | 97 | 100 |
| 8 | 80 | 87 | 18 | 99 | 100 |
| 9 | 82 | 89 | 19 | 100 | 100 |
| 10 | 83 | 91 | 20 | 100 | 100 |
| | | • | • • • • • • • • • • • • • • • • • • • | j | •••••••••••••••••••••••••••••••••••••• |

Operation Rate

(4) Price basis

The prices prevailing in January, 1986 is adopted as the fixed price basis in this financial analysis.

Therefore, no escalation and inflation of the prices and costs are considered in the calculation.

(5) Exchange rate (As of January, 1985)

1 U.S.Dollar (US\$) : 19.103 Peso 1 U.S.Dollar (US\$) : 192.05 Yen

(6) Fund

The total capital requirement for the renovation is explained in Section X-2, and this plan is applied to this financial analysis. That is, the total capital requirement for the renovation is assumed to be covered by long-term loan. (i) Condition of long-term (foreign currency) loan

85% of the foreign currency portion and local currency portion equivalent to 15 percent of the foreign currency portion is to be covered by long-term (foreign currency) loan under the following conditions:

| (a) | Interest rate | : | 11% p.a. |
|-----|------------------------|---|---|
| (b) | Repayment of principal | : | 10 installments/10 years equal annual payment |
| (c) | Grace period | : | 0 year (after start of commercial operation) |

(ii) Condition of long-term (local currency) loan

The capital requirement which is not covered by the long-term (foreign currency) loan is assumed to be covered by long-term (local currency) loan under the following conditions:

| (a) | Interest rate | : 12% p.a. | |
|-----|------------------------|---|--|
| (b) | Repayment of principal | : 5 installments/5 yea equal annual paymen | |
| (c) | Grace period | : 0 year (after start of commercial operation | |

The interest during construction period of long-term loan is assumed to be deferred till the first year of repayment.

(iii) Condition of short-term loan

The short-term loan is borrowed when cash position shows a deficit or the working capital is increased.

| (a) | Interest rate | : | 12% p.a. |
|-----|------------------------|---|---|
| (b) | Repayment of principal | : | The debt is to be paid back in the year when cash posi- tion shows surplus. |

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(7) Taxes

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| Income tax | | 35% of taxable income | |
|-------------|---|-----------------------|--|
| Sales tax | : | 10% of total revenue | |
| Import duty | : | 0% (to be exempted) | |

(8) Depreciation and amortization

The conditions for the calculation of depreciation and amortization are set as follows based on the discussion with ICC personnels.

| the second se | 그는 것 같은 것 같 | | | | |
|---|---|---------------|--|--|--|
| Item | Depreciation method | Salvage value | | | |
| Machinery and equipment | 15 year straight line | 18 | | | |
| Civil and building | 20 year straight line | 18 | | | |
| Vehicle | 5 year streight line | 18 | | | |
| Interest during construction | 10 year straight line | 0% | | | |

(9) Others

0.5 Peso/bag (10.5 Peso/t \cdot cement) is applied as export promotion fund.

10.1

XI-1-3 Disbursement Schedule of Total Capital Requirement

Table 11-1-1 shows the disbursement schedule of the total capital requirement discussed in Section X.

Table 11-1-1 Disbursement Schedule of Total Capital Requirement

| (1, | 000 | Pesos) | |
|-----|-----|--------|--|
| | | | |

| Year | - 2 | | -1 | | Total | |
|---------------------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
| Portion | Foreign Portion | Local Portion | Foreign Portion | Local Portion | Foreign Portion | Local Portion |
| Construction cost | 69,201 | 76,703 | 305,049 | 196,647 | 374,250 | 273,350 |
| Interest during construction | 6,852 | 4,827 | 40,863 | 19,886 | 47,715 | 24,713 |
| Working capital | - | | | 5,154 | | 5,154 |
| Total | 76,053 | 81,530 | 345,912 | 221,687 | 421,965 | 303,217 |

Note: (-) in year means before completion of the renovation.

The financing schedule of borrowed long-term loan is shown in Table 11-1-2.

Table 11-1-2 Financing Schedule

(1,000 Pesos)

| Year | -2 | -1 | Total |
|-------------------------|---------|---------|---------|
| Loan (foreign currency) | 50,127 | 365,691 | 415,818 |
| Loan (local currency) | 107,456 | 201,908 | 309,364 |
| Total | 157,583 | 567,599 | 725,182 |

Note: (~) in year means before completion of the renovation.

XI-1-4 Sales Price and Sales Plan

(1) Sales price

The ceiling price of cement (ex-factory price) is now controlled by the governmental authorities and the following prices are adopted for financial analysis.

Ordinary portland cement:42.5 Peso/40kg-bagPozzolan cement:41.5 Peso/40kg-bag

Therefore, the following weight averaged prices are applied for financial analysis:

(i) For Case I

Sales price (weight averaged): 42.0 Peso/bag

(ii) For Case II

Sales price (weight averaged): 42.3 Peso/bag

(2) Sales plan

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Based on the results of market study, (refer to Section III-3), sales volume and sales revenue are assumed as shown in Table 11-1-3.

| Case | Cas | se I | Case | 11 |
|------|--------------|---------------|--------------|---------------|
| | Sales Volume | Sales Revenue | Sales Volume | Sales Revenue |
| Year | (ton) | (1,000 Peso) | (ton) | (1,000 Peso) |
| 1 | 639,036 | 670,987 | 637,791 | 674,464 |
| 2 | 648,434 | 680,855 | 655,028 | 692,692 |
| 3 | 667,229 | 700,590 | 672,266 | 710,921 |
| 4 | 686,024 | 720,325 | 689,504 | 729,150 |
| 5 | 704,820 | 740,061 | 698,122 | 738,264 |
| 6 | 723,615 | 759,795 | 715,360 | 756,493 |
| 7 | 733,012 | 769,662 | 732,598 | 774,722 |
| 8 | 751,808 | 789,398 | 749,835 | 792,950 |
| 9 | 770,603 | 809,133 | 767,073 | 811,179 |
| 10 | 780,000 | 819,000 | 784,310 | 829,407 |
| 11 | 798,796 | 838,735 | 801,548 | 847,637 |
| 12 | 817,591 | 858,470 | 818,786 | 865,866 |
| 13 | 836,386 | 878,205 | 836,023 | 884,094 |
| 14 | 855,181 | 897,940 | 853,261 | 902,323 |
| 15 | 873,976 | 917,674 | 861,880 | 911,438 |
| 16 | 892,772 | 937,410 | 861,880 | 911,438 |
| 17 | 911,567 | 957,145 | 861,880 | 911,438 |
| 18 | 930,362 | 976,880 | 861,880 | 911,438 |
| 19 | 939,760 | 986,748 | 861,880 | 911,438 |
| 20 | 939,760 | 986,748 | 861,880 | 911,438 |

Table 11-1-3 Sales Volume and Sales Revenue

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X-1-5 Production Cost

Table 11-1-4 shows the summary of production cost consisting of operating cost, depreciation and interest of loan.

Table 11-1-4 Production Cost

| · · · · · · · · · · · · · · · · · · · | · · · · · · · · · · · · · · · · · · · | ····· | (1, | 000 Pesos) | |
|---------------------------------------|---------------------------------------|---------------------|----------------------|---------------------|--|
| Case | Case | e I de la de la | Case II | | |
| Item | Before Renovation | After Renovation | Before Renovation | After Renovatior | |
| Direct cost | | | | | |
| Raw materials | 74,955 | 70,094 | 72,899 | 67,714 | |
| Fuel | 194,359 | 107,189 | 209,908 | 115,764 | |
| Grinding media | 9,691 | 2,616 | 10,297 | 2,591 | |
| Fire brick | 17,550 | 8,775 | 18,954 | 9,425 | |
| Lubricant | 7,048 | 7,048 | 6,981 | 6,981 | |
| Paper bag | 73,465 | 73,465 | 72,766 | 72,766 | |
| Electric power | 236,865 | 103,875 | 246,777 | 107,807 | |
| Repair expenses | 13,391 | 13,391 | 13,264 | 13,264 | |
| Others | 8,810 | 8,810 | 8,727 | 8,727 | |
| (Total of direct cost) | (636,134) | (395,263) | (660,573) | (405,039) | |
| Fixed cost | | | | | |
| Labour cost | 9,492 | 9,761 | 9,492 | 9,761 | |
| Administration | 8,280 | 8,280 | 8,280 | 8,280 | |
| Depreciation | 68,305 | 115,525 | 68,273 | 115,499 | |
| Interest | 602 | 23,240 | 5,964 | 23,221 | |
| (Total of fixed cost) | (86,679) | (156,806) | (92,009) | (156,761) | |
| Total | 722,813 | 552,069 | 752,582 | 561,800 | |
| Unit cost (Peso/ton-cement) | 1,026 | 783 | 1,078 | 805 | |

Table 11-1-4 shows the production cost in the 5th year after commencement of commercial operation.

(1) Direct cost

(i) Cost for raw materials

Unit consumption of raw materials

(t/t-cement)

| Case | Cas | e I | Case II | | |
|----------------|----------------------|---------------------|----------------------|---------------------|--|
| Item | Before Renovation | After Renovation | Before Renovation | After Renovation | |
| Limestone | 1.253 | 1.095 | 1.367 | 1.194 | |
| Hi-silica clay | 0.158 | 0.100 | 0.172 | 0.109 | |
| Lo-silica clay | 0.058 | 0.120 | 0.063 | 0.131 | |
| Pyrite cinder | 0.025 | 0.021 | 0.027 | 0.023 | |
| Gypsum | 0.045 | 0.045 | 0.045 | 0.045 | |
| Pozzolana | 0.125 | 0.125 | 0.050 | 0.050 | |

Unit price of raw materials

| Limestone | : | 38 Peso/ton |
|----------------|----|--------------|
| Hi-silica clay | : | 38 Peso/ton |
| Lo-silica clay | : | 38 Peso/ton |
| Pyrite cinder | : | 261 Peso/ton |
| Gypsum | :: | 700 Peso/ton |
| Pozzolana | : | 100 Peso/ton |

Unit raw materials cost per 1 ton of cement

| | | per r ton or cemer | (Peso/i-cement) |
|----------------------|---------------------|----------------------|---------------------|
| Cas | e I | Ca | se II |
| Before Renovation | After Renovation | Before Renovation | After Renovation |
| 106.35 | 99.45 | 104.42 | 97.00 |

(ii) Cost for fuel (coal)

| Case | Case I | | Case II | |
|----------------------------------|----------------------|---------------------|----------------------|---------------------|
| Item | Before Renovation | After Renovation | Before Renovation | After Renovation |
| Unit consumption (t/t-cement) | 0.2136 | 0.1178 | 0.2329 | 0.1285 |
| Unit price (Peso/t-coal) | 1,291 | 1,291 | 1,291 | 1,291 |
| Unit cost (Peso/t-cement) | 275.8 | 152.1 | 300.7 | 165.9 |

Note: Calorific value of coal: 5,635 kcal/kg-coal

| Case | Cas | Case I | | e II |
|-----------------------------------|----------------------|---------------------|----------------------|---------------------|
| Item | Before Renovation | After Renovation | Before Renovation | After Renovation |
| [Raw material mill] | | | | |
| Unit consumption (kg/t-cement) | 0.9 | · - · | 0.98 | - |
| Unit price (Peso/t) | 12.5 | - | 12.5 | - |
| Unit cost (Peso/t-cement) | 11.25 | 1.21 | 12.25 | 1.21 |
| [Cement mill] | | | | |
| Unit consumption (kg/t-cement) | 0.2 | 0.2 | 0.2 | 0.2 |
| Unit price (Peso/t) | 12.5 | 12.5 | 12.5 | 12.5 |
| Unit cost (Peso/t-cement) | 2.5 | 2.5 | 2.5 | 2.5 |
| Total | 13.75 | 3.71 | 14.75 | 3.71 |

(iii) Cost for grinding media

For raw materials mill, a roller mill will be used after renovation.

The cost for replacement of table and tyres of roller mill is estimated as 1,091,000 Peso per year (for production of 900,000 ton-cement).

(iv) Cost for fire brick

| Case | Case I | | Case II | |
|-----------------------------------|----------------------|---------------------|----------------------|---------------------|
| Item | Before Renovation | After Renovation | Before Renovation | After Renovation |
| Unit consumption (kg/t-cement) | 1.66 | 0.83 | 1.81 | 0.90 |
| Unit price (Peso/kg) | 15 | 15 | 15 | 15 |
| Unit cost (Peso/t-cement) | 24.9 | 12.45 | 27.15 | 13.5 |

(v) Cost for lubricant oil

| Case | Case I | | Case II | |
|------------------------------|----------------------|---------------------|----------------------|---------------------|
| Item | Before Renovation | After Renovation | Before Renovation | After Renovation |
| Unit cost (Peso/t-cement) | 10 | 10 | 10 | 10 |

(vi) Cost for paper bag

| Case | Case I | | Case II | |
|------------------------------------|----------------------|---------------------|----------------------|---------------------|
| Item | Before Renovation | After Renovation | Before Renovation | After Renovation |
| Unit consumption (Bag/t-cement) | 25.8 | 25.8 | 25.8 | 25.8 |
| Unit price (Peso/bag) | 4.04 | 4.04 | 4.04 | 4.04 |
| Unit cost (Peso/t-cement) | 104.2 | 104.2 | 104.2 | 104.2 |

Note: The breakage of paper bag is estimated as 3%.

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(vii) Cost for electric power

| Case | Case 1 | | Case II | |
|------------------------------------|----------------------|---------------------|----------------------|---------------------|
| Item | Before Renovation | After Renovation | Before Renovation | After Renovation |
| Unit consumption (kWh/t-cement) | 130,17 | 117.94 | 136.92 | 123,58 |
| Unit price (Peso/kWh) | 2.5817 | 1,2496 | 2.5817 | 1.2496 |
| Unit cost (Peso/t-cement) | 336.06 | 147.38 | 353.49 | 154.43 |

Note:Source of powerBefore renovation:MERALCOAfter renovation:NPC

(viii) Repair expenses

| Case | Case I | | Case II | |
|------------------------------|----------------------|---------------------|----------------------|---------------------|
| Item | Before Renovation | After Renovation | Before Renovation | After Renovation |
| Unit cost (Peso/t-cement) | 19 | 19 | 19 | 19 |

(ix) Others (Export promotion fund)

| Case | Case I | | Case II | |
|------------------------------|----------------------|---------------------|----------------------|---------------------|
| Item | Before Renovation | After Renovation | Before Renovation | After Renovation |
| Unit price (Peso/bag) | 0.5 | 0.5 | 0.5 | 0.5 |
| Unit cost (Peso/t-cement) | 12.5 | 12.5 | 12.5 | 12.5 |

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(2) Fixed cost

(i) Labor cost

Number of employee : before renovation 423 after renovation 435 Average salaries and wages : 1,870 Pesos/man.month Annual labor cost :

before renovation9,492,000Pesos/yearafter renovation9,761,000Pesos/year

Note: As mentioned in Section IX-8, the number of employee after renovation will be increased by 12 persons in the Production department.

Note: Average salaries and wages for one employee include 1 month allowance as bonus payment

(ii) Cost for administration

No additional administration expenses will be required after renovation. However, considering increase of employee after renovation, 8,280,000 Pesos is estimated as the administration expenses after renovation.

(iii) Depreciation and amortization

The cost for depreciation and amortization for investment is estimated by using the following calculation method, in accordance with the discussion with ICC personnels.

| | Depreciation Cost | Depreciation Method | Salvage Value | Depreciation per Year |
|---------------------------------|----------------------|--------------------------|------------------|--------------------------|
| | (1,000 Peso) | | · | (1,000 Peso) |
| Machinery & Equipment | 499,465 | 15 year straight line | 18 | 32,965 |
| Civil and building | | 20 year straight line | 18 | 7,333 |
| Vehicle | 0 | 5 year straight line | 18 | 0 |
| Interest during construction | 72,428 | 10 year straight line | 08 | 7,243 |

Table 11-1-5 Depreciation

The annual cost for depreciation and amortization before and after renovation is summarized in Table 11-1-6.

Table 11-1-6 Depreciation (per year)

(1,000 Peso/year)

| Item Case | Before Renovation | After Renovation 82,883 22,613 | | |
|-----------------------------------|-------------------|--------------------------------------|--|--|
| Machinery & Equipment | 49,918 | | | |
| Civil and building | 15,280 | | | |
| Vehicle | 2,271 | 2,271 | | |
| Interest during construc- tion | 0 | 7,243 | | |
| Total | 67,469 | 115,010 | | |

(iv) Interest

As to the loan conditions of long-term loan and short-term loan, please refer to Section XI-1-2, (6).

(1) Profitability

Based on the study results and premises so far described in the financial analysis, the profit and loss statement before and after renovation and cash flow statement formulating the difference before and after renovation is prepared.

Then the profitability of the renovation is assessed by the calculated value of FIRR.

(i) FIRROI (Financial Internal Rate of Return on Investment)

FIRROI stands for IRR (Internal Rate of Return) on investment with the premise that the total investment for renovation is covered by own funds.

FIRROI essentially indicates the profitability of the renovation itself, and effects of financing conditions such as loan conditions, debt and equity ratio, etc. are not considered.

(ii) FIRROE (Financial Internal Rate of Return on Equity)

FIRROE stands for IRR on Equity (own fund invested) and FIRROE indicates the profitability of own capital invested. Since no equity participation is considered in both Case I and II, there are no calculation results of FIRROE. However, a case study of equity participation is studied as sensitivity analysis.

Table 11-1-7 shows the results of profitability of this renovation.

Table 11-1-7 FIRR of Basic Case

| | | (%) |
|----------|--------|---------|
| Case | Case I | Case II |
| FIRROIBT | 33.3 | 35.5 |
| FIRROIAT | 28.8 | 31.6 |

Note: FIRROIBT : FIRROI before tax FIRROIAT : FIRROI after tax

As per Table 11-1-7, FIRROIBT and FIRROIAT show sound profitability of the renovation.

(2) Break-even point

It is assumed that full operation will be achieved in the 19th year after completion, and therefore, the break-even point in 19th year was calculated by using the following formula: At the break-even point, the sum of sales revenue equals to the sum of production cost.

(i) Break-even point after renovation (x)

 $x(\frac{9}{6}) = \frac{\text{Fixed cost}}{\text{Sales revenue - Direct cost}}$

x(%) : The capacity utilization of plant at the break-even point

(ii) Cash break-even point after renovation (y)

 $y(%) = \frac{Fixed cost - (Depreciation + Amortization)}{Sales revenue - Direct cost}$

Table 11-1-8 Break-even Point

| Case | Case | I | Case II | | |
|-----------------------|------|---------------|-----------|----------|--|
| Item | Year | <u>9</u> 0 | Year | 90 50 | |
| Break-even point | 19 | 36.0 | 15 and 19 | 40.5 | |
| Cash break-even point | 19 | 4.9 | 15 and 19 | 5,5 | |

Note: Year is calculated from the commencement of commercial operation.

As per Table 11-1-8, the break-even point in Case I and Case II is 36.0% and 40.5% respectively, which shows high profitability of the renovation.

40% of production rate equals to 1,040 tons per day of clinker production, which is lower than the production of one kiln in 1986.

(3) Payout year

The payout year means the year in which the total investment (construction cost) equals to the cumulative cash amount of income after tax.

The results in Table 11-1-9 shows that the capital requirements for the renovation is recovered in short period.

Table 11-1-9 Payout Year

| | Case I | Case II | | |
|-------------|-----------------|----------------|--|--|
| Payout year | 3 year 3 months | 3 year 0 month | | |

XI-1-7 Sensitivity Analysis

Sensitivity analysis is carried out for changes of the following parameters:

- changes in sales price
- changes in construction cost
- changes in direct cost
- changes in operation rate
- changes in interest rate
- changes in equity rate

The following 2 cases are also studied in addition to the above sensitivity analysis. (refer to Section XI-1-6, (4), (vii))

Case Study A : Renovation by conversion of electricity power source from MERALCO to NPC

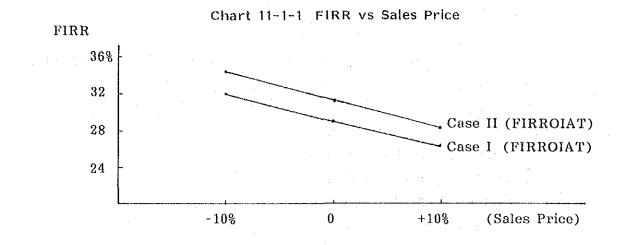
Case Study B : Renovation by conversion of production process (wet to dry)

(1) Change in sales price

The effects on the profitability are studied by varying the sales price by 10%.

Table 11-1-10 FIRR vs Sales Price and Break-even Point

| | Case | Case I | | | Case II | | |
|----------------|---------------|--------|-------|------|---------|----------|--------|
| Item | | Base | +10% | -10% | Base | +10% | -10% |
| Sales price (F | eso/t-cement) | 1,050 | 1,155 | 945 | 1,057.5 | 1,163.25 | 951.75 |
| FIRROIBT | (%) | 33.3 | 33.3 | 33.3 | 35.5 | 35.5 | 35.5 |
| FIRROIAT | (%) | 28.8 | 26.3 | 32.0 | 31.6 | 28.4 | 34.4 |
| Break-even p | oint (%) | 36.0 | 28.9 | 47.5 | 40.5 | 32.3 | 54.2 |



Because the profitability in this study is evaluated by the difference of cash flow before and after renovation. The effects of changes in sales price is offset.

Therefore, FIRROI become same in spite of changes in sales price.

On the other hand, when the sales price rises by 10%, the profit after renovation becomes large, then amount of sales tax becomes large, then the FIRROIAT become low.

As to the break-even point after renovation, the normal trend is found, i.e., low break-even point in case of high sales price.

(2) Changes in construction cost

The profitability is evaluated by varying the investment cost (construction cost) by $\pm 10\%$.

Construction cost (1,000 Pesos)

| Base Case | +10% | -10% |
|-----------|---------|---------|
| 647,600 | 712,360 | 582,840 |

Note:

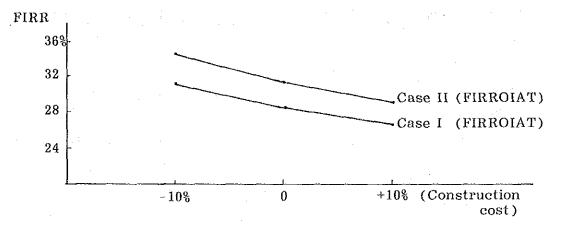
: The construction cost is the same as the Case I and II.

| Case | | Case I | | | Case II | | |
|------------------|------|--------|------|------|---------|------|--|
| Item | Base | +108 | -10% | Base | +10% | -10% | |
| FIRROIBT | 33.3 | 30.5 | 36.6 | 35.5 | 32.5 | 39.0 | |
| FIRROIAT | 28.8 | 26.6 | 31.4 | 31.6 | 29.2 | 34.4 | |
| Break-even point | 36.0 | 37.3 | 34.7 | 40.5 | 41.9 | 39.1 | |

Table 11-1-11 FIRR vs Construction Cost and Break-even Point

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Chart 11-1-2 FIRR vs Construction Cost



Changes in the construction cost also cause changes of operating cost. The increase of the construction cost causes both FIRROIBT and FIRROIAT to become low.

The results in Chart 11-1-2 shows normal trend of FIRR and the changes of construction cost.

When the construction cost rises by 10%, the break-even point after renovation increases by 1.3% in Case I and 1.4% in Case II.

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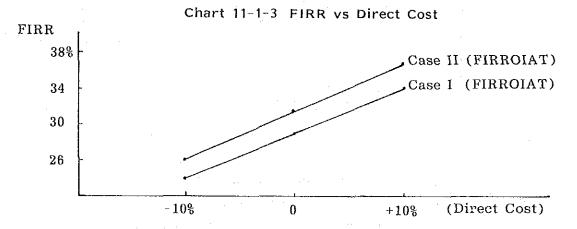
(3) Changes in direct cost

The effects of direct cost on the profitability is studied by varying the direct cost by $\pm 10\%$.

. . .

Table 11-1-12 FIRR vs Direct Cost and Break-even Point

| Case | | Case I | | | Case II | (%) |
|------------------|------|--------|-------|------|---------|------|
| Item | Base | +10% | - 10% | Base | +10% | -10% |
| FIRROIBT | 33.3 | 36.3 | 30.2 | 35.5 | 38.7 | 32.2 |
| FIRROIAT | 28.8 | 33.9 | 24.1 | 31.6 | 36.8 | 26.1 |
| Break-even point | 36.0 | 41.8 | 31.6 | 40.5 | 47.6 | 35.2 |



As mentioned before, the profitability of the renovation is evaluated by the difference of cash flow before and after renovation.

Therefore, when the direct cost increase, the cash flow before renovation become worse due to bigger amount of direct cost than that after renovation.

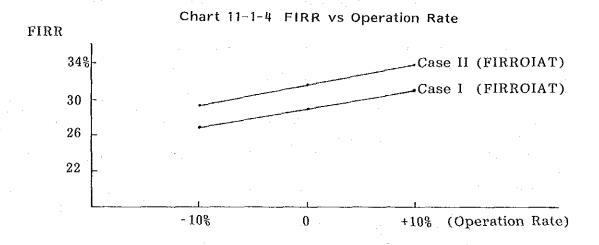
As a result, the difference of cash flow before and after renovation become big and the profitability become good.

When the direct cost increases, the break-even point after renovation become high which is a normal trend.

- (4) Changes in operation rate
 - The effects of operation rate on profitability are analyzed by varying the operation rate by $\pm 10\%$.

| Case | | Case I | | | Case II | |
|------------------|------|--------|--------|------|---------|--------|
| Item | Base | +108 | -10% | Base | +10% | - 10% |
| FIRROIBT | 33.3 | 36.3 | 30.2 | 35,5 | 38.6 | 32.2 |
| FIRROIAT | 28.8 | 30.8 | 26.8 | 31.6 | 33.7 | 29.4 |
| Break-even point | 36.0 | 36.0 | (36,0) | 40.5 | 40.5 | (40.5) |

Table 11-1-3 FIRR vs Operation Rate



When operation rate rises, the difference of cash flow before and after renovation becomes big and profitability is also improved. The break-even point after renovation is not affected by changes in operation rate, as explained in Section XI-1-6, (2).

However, when the operation rate decreases by 10%, the break-even point cannot be calculated, because the year of full operation is not found in the project life (20 years). But the rate should be same as Case II.

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(5) Changes in interest rate

Table 11-1-14 shows the effects of changes in interest rate on profitability.

Case (i)

Foreign currency loan : same as Base Case Local currency loan : 20% p.a. (interest)

Case (ii)

| Foreign currency loan | | |
|-----------------------|---|-----------|
| interest rate | : | 3.5% p.a. |
| grace period | : | 10 year |
| repayment | : | 20 year |
| | | |

Local currency loan : same as Base Case

| | | · · · · · · · · · · · · · · · · · · · | | | | (%) |
|------------------|------|---------------------------------------|----------|------|---------|----------|
| Case | | Case I | | | Case II | |
| Item | Base | Case(i) | Case(ii) | Base | Case(i) | Case(ii) |
| FIRROIBT | 33.3 | 33.3 | 33.3 | 35.5 | 35.5 | 35.5 |
| FIRROIAT | 28.8 | 29.5 | 28.0 | 31.6 | 32.2 | 30.7 |
| Break-even point | 36.0 | 36.5 | 35.2 | 40.5 | 41.1 | 39.6 |

Table 11-1-14 FIRR vs interest Rate

As explained in Section XI-1-6, (1), the effects of financing conditions such as interest rate and loan conditions are not considered in calculations of FIRROI.

Therefore, FIRROIBT shows the same profitability in spite of change in interest rate.

When the interest rate rise, the profit and the amount of income tax become small, then high profitability is found in Table 11-1-14.

(6) Changes in equity ratio (30%)

| Case | | Case I | Case II | | |
|------------------|------|-------------|---------|-------------|--|
| Item | Base | Equity: 30% | Base | Equity: 30% | |
| FIRROIBT | 33.3 | 33.3 | 35.5 | 35.5 | |
| FIRROIAT | 28.8 | 28.1 | 31.6 | 30.8 | |
| FIRROE | - | 54.8 | - | 60.9 | |
| Break-even point | 36.0 | 35.4 | 40.5 | 39.8 | |

Table 11-1-15 FIRR vs Equity and Break-even Point

When the equity ratio increase from 0% of the Base Case to 30%, the FIRROE of Case I and Case II are 54.8% and 60.9% respectively. Since the FIRROI stands for the profitability against total investment, the results of FIRROI is the same as the Base Case. The break-even point after renovation shows lower percentage in comparison with the result of Base Case, because the amount of depreciation decrease since decrease of interest during construction. XI-1-8 Case Study

In the previous section, financial aspects of the renovation have been reviewed and evaluated for the Base Case. Base Case include the conversion of production process and installation of new transmission line between NPC and plant. In this section, the profitability of the following cases are evaluated. The other conditions such as annual production, financing conditions etc. are based on the same premises in Base Case.

Renovation by conversion of electricity power source Case A : from MERALCO to NPC

Case B : Renovation by conversion of production process (wet to dry)

Major differences from the Base Case are summarized hereinafter.

(1) Case A: Renovation by conversion of electricity power source from MERALCO to NPC

The outline of this renovation is as follows: (refer to Section VIII-9)

Total capital requirement (i)

Table 11-1-16 Total Capital Requirement

(1 000 Boggs)

| | | (1 | (,000 Pesos) |
|-----------------------------------|-----------------|---------------|---------------|
| Item Portion | Foreign Portion | Local Portion | Total |
| Machinery/Equipment | 47,600 | 0 | 47,600 |
| Erection | 0 | 30,150 | 30,150 |
| Engineering fee | 4,650 | 0 | 4,650 |
| Contingency | 0 | 5,200 | 5,200 |
| (Sub-total) | (52,250) | (35,350) | (87,600) |
| Interest during construc- tion | 6,015 | 2,529 | 8,544 |
| Working capital | 0 | 5,154 | 5,154 |
| Total | 58,265 | 43,033 | 101,298 |
| | 0.00 | | |

(ii) Disbursement schedule of total capital requirement

| | | | land a second | | (1,000] | Pesos) |
|---------------------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
| Year | -2 Y | ear | -1 Y | 'ear | То | tal |
| Portion Item | Foreign Portion | Local Portion | Foreign Portion | Local Portion | Foreign Portion | Local Portion |
| Construction cost | 20,901 | 5,303 | 31,349 | 30,047 | 52,250 | 35,350 |
| Interest during construction | 1,056 | 251 | 4,959 | 2,278 | 6,015 | 2,529 |
| Working capital | 0 | 0 | 0 | 5,154 | 0 | 5,154 |
| Total | 21,957 | 5,554 | 36,308 | 37,479 | 58,265 | 43,033 |

Table 11-1-17 Disbursement Schedule of Total Capital Requirement

Note: (-) in year means before the completion of the renovation.

(iii) Other conditions

Other conditions is assumed same as those in section XI-1-2 (basic premises).

(iv) Major difference from the Base Case

(a) Decrease of investment cost

Investment cost for Case A is estimated to be about 14% of the Base Case due to the limited range of the renovation.

(b) Cost for electricity and fuel

Cost for electricity can be reduced greatly as same as the Base Case, while the advantage through the conversion of production process, i.e., the decrease of fuel cost is not be enjoyed. (refer to Section XI-1-5, (1), (viii))

Renovation by conversion of production process (2) Case B: (wet to dry)

The outline of this renovation is as follows:

Total capital requirement (i)

| | a de la composición d | | (1,000 Peso) |
|---------------------------------|---|---------------|--------------|
| Item Portion | Foreign Portion | Local Portion | Total |
| Construction cost | | | |
| Machinery /Equipment | 206,000 | 67,000 | 273,000 |
| Ocean freight | 25,000 | 0 | 25,000 |
| Inland transport | 0 | 12,000 | 12,000 |
| Erection | 0 | 51,000 | 51,000 |
| Civil | 41,000 | 89,000 | 130,000 |
| Engineering fee | 38,000 | 5,000 | 43,000 |
| Contingency | 12,000 | 14,000 | 26,000 |
| (Sub-total) | (322,000) | (238,000) | (560,000) |
| Interest during Construction | 41,700 | 22,184 | 63,884 |
| Working capital | 0 | 5,154 | 5,154 |
| Total | 363,700 | 265,338 | 629,038 |

Table 11-1-18 Total Capital Requirement

(ii) Disbursement schedule of total capital requirement

| Year | | 'ear | -1 | Year | Total | |
|---------------------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
| Portion Item | Foreign Portion | Local Portion | Foreign Portion | Local Portion | Foreign Portion | Local Portior |
| Construction cost | 48,300 | 71,400 | 273,700 | 166,600 | 322,000 | 238,000 |
| Interest during construction | 5,796 | 4,576 | 35,904 | 17,608 | 41,700 | 22,184 |
| Working capital | 0 | 0 | 0 | 5,154 | 0- | 5,154 |
| Total | 54,096 | 75,976 | 309,604 | 189,362 | 363,700 | 265,338 |

Table 11-1-19 Disburgement Schedule of Total Capital Requirement

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Other conditions are assumed same as those in Section XI-1-2 (basic premises).

(iv) Major difference from the Base Case

(a) Decrease of investment cost

Investment cost for Case B is estimated to be about 86% of the Base Case.

(b) Cost for electricity and fuel

Cost for fuel can be reduced greatly as same as the Base Case, while the advantage through conversion of electricity power source, i.e., the decrease of electricity cost cannot be enjoyed.

Major parameters of the renovation for the Base Case, Case Study A and B have been summerized in Table 11-1-20.

| | Item | Base (Case I) | Case A | Case B |
|---|---|---------------|---------------|--------------|
| 1 | Construction cost (1,000 Peso) | 674,000 | 87,600 | 560,000 |
| 2 | Cement production (t/year) | 939,760 | 939,760 | 939,760 |
| 3 | Unit consumption of raw materials (t/t-cement) | 1,506 | 1,506 | 1,506 |
| 4 | Unit cost of raw materials (Peso/t-cement) | 99.45 | 106.35 | 99.45 |
| 5 | Fuel Unit consumption x Unit price (t/t-cement) (Peso) | 0.1178x1,291 | 0.2136x1,291 | 0.1178x1,291 |
| | Unit cost (Peso/t-cement) | 152.1 | 275.8 | 152.1 |
| 6 | Electric power Unit consumptionx Unit price (kWh/t-cement) (Peso) | 117,94x1,2496 | 117.94x1.2496 | 130.17x2.581 |
| | Unit cost (Peso/t-cement) | 147.38 | 147.38 | 336.06 |
| 7 | Fire-bricks Unit consumption x Unit price (kg/t-cement) (Peso) | 0.83 x 15 | 1.66 x 15 | 0.83 x 15 |
| | Unit cost (Peso/t-cement) | 12.45 | 24.9 | 12.45 |
| 8 | Grinding media Unit cost (Peso/t-cement) | 3.71 | 13.75 | 3.71 |
| | | | | |
| I | Total (4 + 5 + 6 + 7 + 8) (Peso/t-cement) | 415.09 | 568.18 | 603.77 |

Table 11-1-20 Premises of Case Study

(3) Results of financial study - Case Study -

Financial analysis by the analysis method described in Section XI, have been made for Case Study A and B based on the parameters values indicated in Table 11-1-20.

Calculated FIRROIBT and FIRROIAT are summarized in Table 11-1-21.

Table 11-1-21 FIRR (Case Study)

| | | 2 | (응) |
|----------|---------------|--------|--------|
| | Base (Case I) | Case A | Case B |
| FIRROIBT | 33.3 | | 17.5 |
| FIRROIAT | 28.8 | 92.5 | 16.9 |

Note: FIRROIBT in Case A become over 100%.

Consideration of Case Study

- (i) The renovation by conversion of electricity power source from MERALCO to NPC (Case A) affect profitability greatly, because the decrease of electricity cost is very big compared to the amount of investment. However, as shown in Table 11-1-20, the direct production cost is still high by about 37% in comparison with the Base Case.
- (ii) The profitability of Case B is lower than that of Base Case, however, FIRROI is still at satisfactory level.

(iii) As shown in Table 11-1-20, the cost of fuel and electricity account for a big percentage in the direct production cost.

Since the Base Case can enjoy the advantages of both Case A and B, Base Case supported by the results of high profitability is most advisable.

In this financial analysis, the difference of cash flow before and after renovation is considered as profit against total investment. Therefore, when the cash flow before renovation is minus, the

For reference, the profitability of Base Case against profit after renovation is studied and summarized in Table 11-1-22.

Table 11-1-22 FIRR (Renovation)

| <u></u> | | (%) |
|----------|---------------|----------------|
| | Base Case (I) | Base Case (II) |
| FIRROIBT | 35.6 | 34.5 |
| FIRROIAT | 31.3 | 30.6 |

- In Base Case I, the cash flow before renovation (before depreciation) is (+). Therefore, the cash flow after renovation is larger than the difference of cash flow before and after renovation.

profit will become big.

(2) In Base Case II, the cash flow before renovation (before depreciation) is (-), i.e., the cash flow after renovation is smaller than the difference of cash flow before and after renovation.

Therefore, FIRROIBT and FIRROIAT after renovation is smaller than those for the difference of cash flow.

(3) FIRROIBT and FIRROIAT in both Base Case I and II shows good profitability (over 30%).

The following case was studied in addition to the above study.

Premise (1) The debt to DBP/PNB (1,209 million Peso) and the present capital (15 million Peso) is considered as total capital.

(2) The amount in (1) plus capital requirement for the renovation is considered as total capital requirement.

The results of FIRR calculation are summarized in Table 11-1-23.

| · | Case I | Case II |
|----------|--------|---------|
| FIRROIBT | 12.2 | 11.6 |
| FIRROIAT | 9.4 | 8.9 |
| FIRROE | 12.2 | 11.5 |

Table 11-1-23 FIRR (Case Study)

The above premises are very severe to evaluate the profitability of total capital requirement, i.e., approx. 2.7 times of capital requirement for the renovation.

However, FIRROIAT of Case I and Case II is around 9% which show high profitability of the renovation.

ATTACHMENT

| | | Page |
|----|---------------------------------|-----------|
| 1. | Base Case I | 377 ∿ 386 |
| 2. | Base Case II | 387 ∿ 396 |
| 3. | Base Case I (After Renovation) | 397 ∿ 406 |
| 4. | Base Case II (After Renovation) | 407 ∿ 416 |

| | • | | | | | | | • • | | |
|-----------------------------|---------------|-----------------|----------------|-----------|---------|--------|----------|-----------|-------------------|--------|
| · . | TI HOA4 | IT AND | \$\$0 1 | STATEMENT | T (1/3) | Base | e Case I | 1 | Before Renovation | ation |
| PROJECT YEAR | en e | () 1 | Ч. | , puq | (1 | 8 | 4 | ະດາ ເກ | 9 | 6 |
| SALES UCLUNE (TON/YEAR) | 0 | 0 | 0 | 639036 | 648434 | 667229 | 686024 | 704820 | 723615 | 233012 |
| RATIO OF TOMESTIC SALES (2) | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| SALENUS | a . | 0 | Ģ | 670987 | 680855 | 700590 | 720325 | 740061 | 759795 | 769662 |
| EXCISE NUTY | 0 | 0 | 0 | ð | 0 | 0 | 0 | 0 | 0 | • |
| SALES TAX | 0 | 0 | 0 | 86609 | 61895 | 06969 | 65484 | 67278 | 69072 | 69669 |
| NET SALES REVENUE | • | 0 | 0 | 609989 | 618960 | 636900 | 65484] | 672783 | 690723 | 699693 |
| COSI AND EXPRENCE | | | | | | | | | | |
| THISTOCAL | • | ¢ | 0 | 67959 | 68958 | 70957 | 72956 | 74955 | 76953 | 77953 |
| CONSUMARLES | 0 | 0 | ۰ | 31086 | 31546 | 32460 | 33374 | 34289 | 35203 | 35660 |
| 13 03 | 0 | 0 | 0 | 176219 | 175810 | 183993 | 189176 | 194359 | 199542 | 202133 |
| ELECTRIC POUER | 0 | ٥ | ¢ | 214758 | 217916 | 224232 | 230549 | 236865 | 243182 | 246340 |
| PEPAIK EXPENSES | 0 | ٥ | ¢ | 12141 | 12319 | 12677 | 13034 | 16581 | 13748 | 13926 |
| BAGS | • | 0 | 0 | 24596 | 75693 | 77887 | 18003 | 82275 | B4469 | 85566 |
| TUTAL OF DIRECT COST | • | ò | 0 | 576761 | 585242 | 602206 | 619170 | 636134 | 653097 | 661578 |
| FIXED COST | • | | | - | - | | | - | | • |
| SALAKIES AND WAGES | 0 | • | • | 5492 | 9492 | 9492 | 9492 | 9492 | 9492 | 9492 |
| | | | 0 | 8380 | | | B2B0 | | | |
| HISCELLANEOUS EXPENSES | ¢ | 0 | 0 | ° | • | • | 0 | o | • | 0 |
| DEPRECIATION | 0 | 0 | 0 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 |
| | 0 | 0 | 0 | | | | | | | |
| TOTAL OF EIXED COST | • | 0 | 0. | 86077 | 86077 | 86077 | 86077 | 86077 | 86077 | 86077 |
| EARNINGS | 0 | ٥ | o | -52849 | -52359 | -51383 | -50406 | -49428 | -48451 | -47962 |
| E-INANG-IALCHARGE | | | | | | | | | | |
| INDEREST LONG TERMIN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | • |
| INTEREST LONG TERM (2) | • | • | 0 | ٥ | 0 | ο. | 0 | • | • | 0 |
| | 0 | 0 | | -E00.I | E06 | | | | | t0;+ |
| TOTAL | • | 0 | 0 | 1003 | E06 | 803 | 702 | 602 | 502 | 401 |
| TOTAL OF PRODUCTION COST | 0 | 0 | ¢ | 663841 | 672222 | 689086 | 705949 | 722813 | 739676 | 748056 |
| NETEARINGS-BEFORE-TAX | | 0 | -0 | | | 52186 | | | | 48362 |
| INCOME TAX | 0 | 0 | U | 0 | • | ୍ | ۰. | • | o | • |
| NET EARNINGS AFIER LAX | o : | ¢ | 0 | | -53262 | -52186 | -51108 | -50030 | -48953 | -48363 |
| | | | | | | | | | | |

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Base Case I

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| | PROFIL | EIT AND | 1055 | STATENENT | (2/3) | Base | Case 1 | - Derore | berore kenovarion | 7707- | |
|----------------------------------|----------|----------|--------|------------|--------|-----------|---------------------------------------|----------|-------------------|----------|------|
| PROJECT YEAR | 6 | с. | 01 | 11 | 12 | 13 | 14 | 51 | 16 | 17. | |
| SALES VOLUNE (TON/YEAR) | 221608 | 270603 | 780000 | 798796 | 817591 | 836386 | 855181 | 873976 | 892772 | 911567 | |
| KATIO DE DOMESTIC SALES (2) | 100.001 | 100.00 | 100.00 | 100-00 | 100-00 | 100-00 | 100-00 | 100.00 | 100.00 | 100.001 | |
| SALES REVENUE | 789398 | 809133 | 000618 | 838735 | 858470 | 878205 | 897940 | 419674 | 937410 | 957145 | |
| EXCISE DUTY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| SALES TAX | 71763 | 73557 | 7154 | 76248 | 78042 | 79836 | 91630 | 83424 | 85219 | 87013 | |
| NET SALES REVENUE | 717635 | 735576 | 744546 | 762487 | 780428 | 798369 | 816310 | 834250 | 852191 | 870132 | |
| COST AND EXPRENCE | | | | | | | | | | - | |
| RAM MATERIAL | សី | 81950 | 82950 | 84549 | 86947 | 88946 | 90945 | 92944 | 94943 | 96941 | |
| CONSUMABLES | 36575 | 37489 | 37946 | 38861 | 39775 | 40689 | 41604 | 42518 | 43433 | 44347 | |
| TINA | 207316 | 212499 | 215091 | 220274 | 225457 | 6E9082 | 235822 | 241005 | 246188 | 1281321 | |
| ELECTRIC POWER | 252656 | 258973 | 262131 | 268447 | 274764 | 281080 | 287397 | 293713 | 300029 | 306346 | |
| PEPAIR EXPENSES | 14284 | 14641 | 618+1 | 15176 | 15533 | 15890 | 16248 | 16605 | 16962 | 616/1 | - |
| 84GS | 87760 | 12668 | 91051 | 93245 | 95439 | 97633 | 99827 | 102021 | 104215 | 106409 | |
| TOTAL OF DIRECT COST | 678543 | 695506 | 203988 | 720952 | 232915 | 754877 | 771843 | 788906 | 805770 | 822733 | |
| FIXED COST Salaries And Wages | | 9492 | 9492 | 5492 | 9492 | 9492 | 9492 | 9492 | 5492 | 9492 | |
| ADH IN ISTRATIVE-EXPENSES | 8280 | | | 8280 | | - 8380 | -0380 | 8280- | - 8280 | 8280 | |
| MISCELLANEOUS EXPENSES | 0 | 0 | 0 | 0 | 0 | • | • | • | • | 0 | |
| DEPRECIATION | 62469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | |
| ANORTIZATION | | 958 | 840 | 0 | 0 | لم. ا | 0 | -0 | 0 | 0 | |
| TOTAL OF FIXED COST | 86077 | 86077 | 86981 | 85241 | 85241 | 85241 | 85241 | 85241 | 85241 | 85241 | |
| EARNINGS | -46985 | -46007 | -45523 | -43706 | -42728 | -41749 | -40774 | -39797 | -38820 | -37842 | |
| F-INANG TAL-GHARGE | | | | | | | · · · · · · · · · · · · · · · · · · · | | | • | . 1 |
| (I) WHEL SUDT LEAKELINE | 0 | 0 | 0 | ` ` | 0 | 0 | ° | • | 0 | 0 | วยะ |
| INTEREST LONG TERM (2) | 0 | 0 | 0 | 0 | • | 0 | Ö | Ø | • | ٥ | ie 1 |
| | [0E | | | -0 | | · · · · · | -0 | | 0 | 0 1 | Jas |
| TOTAC | TOE . | 201 | 100 | • | 0 | | 0 | 0 | 0 | 0 | 3e |
| IDIAL OF PRODUCTION COST | 764921 | 781784 | 790169 | 806153 | 823156 | B40119 | 857084 | 874047 | 110168 | 907974 | 1. |
| NET-EARINGS-BEFORE-TAX | | | | 43706- | 42728 | 65216 | | - 26265 | | | |
| KNCOMB TAX | 0 | 0 | 0 | • | 0 | 0 | 0 | • | 0 | ن | |
| XXX TAR SUNINGS TAX | -17786 | -46208 | -45623 | -43706 | -42728 | -41749 | -40774 | -39797 | -38820 | -37842 | |

| (EAR.) 930362 9 ALES-(2)100,000-01 976880 9 99940 9 99940 9 99940 9 99940 9 99940 9 99955 8 17676 9 108662 9 108662 9 49556 9 8280 0 0 0 5 EXTENSES 0 67469 | 939760 | 939760 100-00 986748 0 -89704 45719 45719 259146 -915621 17855 109700 -846181 -9492 | | | | | | |
|---|--|---|-----|---|----------|---|-------------|---------------------------------------|
| DF-DOHESTIG-SALES-(%) | -100.00 986748 897044 99940 | -100-00 986748 | | | | | | |
| REVENUE 976880 9 EXCISE DULY 0 94807 SALES-TAX 988073 9 SALES-TAX 988073 9 SALES TAX 989073 9 SALES TAX 989073 9 SALES TAX 989073 9 SALES TAX 989073 9 AND EXPRENCE 99910 9 RUL 256554 2 PERAW HATERIAL 312662 3 PERAW HATERIAL 3126653 1 PERAW HATERIAL 3126656 8 RAGS 108603 1 PEPAIR <expenses< td=""> 108603 1 PERAIR<expenses< td=""> 9492 3 PERAIRES AND WAGES 9492 ANHINISTRATIVE EXPENSES 0 4 SALARIES AND WAGES 9492 3 ANHINISTRATIVE EXPENSES 0 0 MISCELLANEDUS 57469 0</expenses<></expenses<> | 99940 | 986748 986748 897044 45719 45719 45719 17855 109700 -949181 -949181 | | | | | | |
| REVENUE 976880 9 EXCISE DUTY 0 54LES-TAX 0 SALES-TAX 888073 8 AND EXPRENCE 98910 3 RAW HATERIAL 98940 3 RAW HATERIAL 15661 2 RAW HATERIAL 156554 2 RAW HATERIAL 312662 3 FUEL 256554 2 FEFAIR EXPENSES 105603 1 TUDIALOR-DIARCA-COST 9396956 8 ASLARIES AND WAGES 9492 3 ANDIALES 8280 3 3 TUDIAL-OR-DIARECA-COST 9396566 8 3 TUDIAL-OR-DIARES 9395696 6 3 AND MAGES 9492 3 3 3 TUDIAL-OR-DIARECA-COST 0 3 3 3 TUDIAL-OR-DIARES 9396566 3 | 986748 697044 897044 99940 | 986748 0 897044 45719 45719 259146 915821 17855 109700 -846181 -9492 | | | | | | |
| EXCISE BUTY 0 SALES-TAX | 0 697044 99940 45719 259146 315821 17855 109700 109700 | 0 897044 897044 45719 45719 259146 91582 109700 846181 9492 | | | | | | |
| SALES-TAX | - 897044 897044 99940 | 89704 | | | | | | |
| AND EXPENDE AND EXPRENCE DINECT COST -RAW-HATERTAL | 897044 45719 45719 259146 315821 17855 109700 | 897044 | | | | | | |
| AND EXPRENCE DIRECT COST -RAW-HATERIAL | 99940 | | | | | | | |
| CT COST - MATERIAL- 99940 SUMABLES 45261 L 256554 2 CTRTC-POWER 17676 3 17676 3 17676 3 17676 3 17676 3 108603 1 3 108600 1 3 108600 | 99940 45719 259146 315821 17855 109700 109700 | 99940- 45719 259146 -315821 17855 109700 -846181 -9492 | | | | | | |
| SUMMBLES 15261 L 256554 2 CTRIC-POWER 25562 256554 2 AIR EXPENSES 17662 1 AL-0F-DTKECT-COST 95660 1 AL-0F-DTKECT-COST 9492 SCOST 9492 INISTRATIVE EXPENSES 9492 INISTRATIVE EXPENSES 0 CELLANEDUS EXPENSES 0 | 45719 259146 315821 179700 109700 | 45719 259146 -315821 17855 109700 -846181 -9492 | | | | | | |
| L 256554 2 CTRFC-POWER 256554 2 AIR EXFENSES 17676 108603 1 AL-OF-FIRECT-COST 939696-8 ARIES AND WAGES 9492 CGST 9492 INISTRATIVE EXPENSES 9492 INISTRATIVE EXPENSES 0 CELLANEDUS EXPENSES 0 CELLANEDUS EXPENSES 0 | 259146 315821 17855 109700 848181 | 259146 -315621 17855 109700 -846181 -846181 | | | | | | · · · · · · · · · · · · · · · · · · · |
| CTRIC-POWER 312662 312662 312662 312662 312662 3126562 3126562 3126562 3126562 3126562 3126562 3126562 31265252 312652552 3126552 3126552 3126552 3126552 31265552 31265552 312655555 3126555555555555555555555555555555555555 | -315821 17855 109700 818181 | -315821 17855 109700 -848181 9492 | | | | | | · · · · · · · · · · · · · · · · · · · |
| AIR EXPENSES 17676 S 108603 1 AL-OF-DIRECT-COST 8396968 COST AND WAGES 9492 AKIES AND WAGES 9492 INISTRATIVE EXPENSES 8280 CELLANEDUS EXPENSES 0 RECIATION 67469 | 17855 109700 848181 | 17855 109700 -846181 | | | | | • • • | |
| S 106603 1 AL-OF-DTKECT-COST-939696-8 GOST AND WAGES 9492 AKIES AND WAGES 9492 INISTRATIVE EXPENSES 8280 CELLANEDUS EXPENSES 0 CELLANEDUS EXPENSES 0 KECTATION 67469 | 109700 848181 | 109700 -848181 9492 | | | | | | |
| AL-OF-FIXECT-COST | | -846181 | | | | | | |
| COST AND WAGES 9492 Aries and Wages 9492 Inistrative expenses 8280 Cellanedus expenses 0 Rectation 67469 | | 9492 | | | | | | |
| 5 8280 0 67469 | 9492 | | | | · | | | |
| S EXFENSES 0 67469 | 9280 | 8280 | | • | | | • | |
| 67469 | 0 | 0 | | | | | | |
| | 67469 | 62469 | | | | | - - | |
| AMORTIZATION | 0 | 0 | | • | • | • | • | |
| TOTAL OF FIXED COST 85241 4 | 85241 | 85341 | | | | | | |
| EARNINGS - 36864 -: | -36378 | -36378 | | | | | | .: |
| INTEREST LONG TERM (1) | 0 | 0 | | | | | | - |
| O INTEREST LONG TERM (2) | 0 | 0 | | | | | | |
| INTEREST SHORT TERM | 0 | 0 | | | | - | | |
| TOTAL | 0 | 0 | . / | | | | | |
| TOTAL OF PRODUCTION COST 924937 9 | 933422 | 933422 | - | | | | | |
| NET EAKINGS REFORE TAX -36864 | -36378 | -36378 | | | | | • | |
| INCOME TAX | 0 | 0 | | | | | | |
| NET EARNINGS AFTER TAX -36864 - | -36378 | -36378 | | | | | | |
| | | | | | 5. 5. | | | |

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| | TI 3074 | T AND | , 1055 , | STATEMENT | (5/1) | Base | Case I. | - After | After Renovation | ron |
|----------------------------------|---------|------------|----------|-----------|---------|--------|-----------|---------|------------------|---------|
| PROJECT YEAK | ტ 1 | ង | 7 | - | . 11 | N | 4 | S | ও | 7 |
| SALES VOLUNE (TON/YEAR) | .0 | 0 | 0 | 639036 | 648434 | 667229 | 686024 | 704820 | 723615 | 733012 |
| RATID OF DOMESTIC SALES (X) | 0.00 | 0.00 | 0.00 | 100.00 | 100.001 | 100.00 | 100.00 | 100.00 | 100.00 | 100-00 |
| SALES REVENUE | 0 | 0 | 0 | 670987 | 680855 | 200590 | 720325 | 740061 | 26/62/ | 769662 |
| EXCISE DUTY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SALES TAX | ٥ | ò | 0 | 60998 | 61895 | 63690 | 65484 | 67278 | 69072 | 69969 |
| NET SALES REVENUE | • | ٥ | • | 686609 | 618960 | 636900 | 654841 | 672783 | 690723 | 699693 |
| COST AND EXPRENCE | | | | | | | | | | : |
| RAW MATERIAL | 0 | 0 | ¢ | 63552 | 64486 | 66355 | 68225 | 46002 | 71963 | 72898 |
| CONSUMABLES | • | 0 | Ċ | 16718 | 16964 | 17456 | 17947 | 18439 | 18931 | 19177 |
| FUEL | 0 | 0 | 0 | 97184 | 90614 | 101472 | 104330 | 107189 | 110047 | 111476 |
| ELECTRIC POWER | 0 | o . | • | . 081%6 | 92562 | 36335 | 101105 | 103875 | 105645 | 108030 |
| SASNAYA XIA434 | 0 | • | • | 12141 | 12319 | 12677 | 13034 | 13391 | 13748 | 13926 |
| BAGS | 0 | 0 | 0 | 74596 | 75693 | 77867 | 80081 | 82275 | 84469 | 85566 |
| TUTAL OF DIRECT COST | ۰ | 0 | 0 | 358371 | 363641 | 374182 | 384722 | 395263 | 405803 | 411073 |
| FIXED COST Salakies and wages | , , | 0 | . 0 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 |
| | 0 | 0 | | | 8280 | | 8280 | | 8280 | 6280 |
| HISCELLANEOUS EXPENSES | ¢ | • | Ó | • | 0 | 0 | 0 | | • | • |
| DEPRECIATION | 0 | . 0 | 0 | 115010 | 115010 | 115010 | 010511 | 115010 | 115010 | 115010 |
| | 0 | | | | | | | 515 | | 515 |
| TOTAL OF FIXED COST | \$ | ٥ | 0 | 133566 | 133566 | 133566 | 133566 | 133566 | 133566 | 133566 |
| ear ings | 0 | • | 0 | 118052 | 121753 | 129152 | 136553 | 143954 | 151354 | 155054 |
| | | | | | | | | | | |
| INTEREST LONG TERM (1) | 0 | 0 | 0 | 41165 | 36291 | 32017 | 27443 | 22869 | 18295 | 13721 |
| INTEREST LONG TERM (2) | 0 | 0 | o | 29204 | 21903 | 14602 | 1064 | • | • | ٥ |
| INTERSISHORT-TERM | | | -0 | 6.).8 | | | | -146 | 608 | |
| ROWAL | 0 | 0 | 0 | 28602 | 59050 | 5117A | 35177 | 23240 | 18604 | 13968 |
| TOTAL OF PRODUCTION COST | • | 0 | 0 | 126295 | 556257 | 554863 | 553465 | 552069 | 557973 | 558607 |
| 411-124 INGS-925P0XE-14X | | 0 | -0 | | 62703 | | 1:0:1-376 | | 132750 | 1 41086 |
| INCOME NAX | 0 | • | 0 | 16472 | 21946 | 5173 | 35481 | 42249 | 46462 | 49380 |
| NOL WELLOS DELENS | o | 0 | Ċ | 30593 | 40757 | 53326 | 62895 | 78465 | 86288 | 91706 |
| | | | | | | | | | | |

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| | PROFIT | CINA TIB | 1055 | STATEMENT | (2/3) | Base | Case I - | After | Renovation | uc |
|---------------------------------------|--------|----------|----------|-----------|---------|------------|----------|--------|------------|--------|
| PROJECT YEAR | ∞. | 6 | 10 | 11 | 12 | e T | 14 | 15 | 16 | 52 |
| SALES VOLUNE (TON/YEAK) | 251808 | 770603 | 780000 | 798796 | 163718 | 836386 | 855181 | 926628 | 692772 | 911567 |
| KATID OF DOMESTIC SALES (2) | 100.00 | 100-00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100-00 | 100.00 | 100.00 |
| SALES REVENUE | 789398 | 809133 | 000618 | 838735 | 858470 | 878205 | 076268 | 917674 | 937410 | 957145 |
| EXCISE DUTY | ¢ | • | 0 | 0 | 0 | 0 | ٥ | 0 | 0 | 0 |
| SALES TAX | 21763 | 73557 | 74454 | 76248 | 78042 | 29836 | 81630 | 83424 | 82219 | 87013 |
| NET SALES REVENUE | 717635 | 735576 | 744546 | 762487 | 780428 | 798369 | 816310 | 834250 | 852191 | 870132 |
| COST AND EXPRENCE | | · | | | | | | | | : |
| XAW HATERIAL | 74767 | 76636 | 77570 | 79440 | 60618 | 83178 | 85047 | 86916 | 88786 | 90655 |
| CONSUMABLES | 19668 | 20160 | 20406 | 20898 | 21369 | 21881 | 22373 | 22864 | 33356 | 3848 |
| ารกร | 114335 | £61711 | 118622 | 121481 | 124339 | 127197 | 130056 | 132914 | 135773 | 138631 |
| ELECTRIC FOURS | 110800 | 113570 | 114955 | 117725 | 120495 | 123265 | 126035 | 128605 | 131275 | 134345 |
| PEPAIR EXPENSES | 14284 | 14641 | 14819 | 15176 | 15533 | 15890 | 16248 | 16605 | 16962 | 91571 |
| RAGS | 87760 | 19954 | 12016 | 93245 | 95439 | 97633 | 99627 | 102021 | 104215 | 106405 |
| TGTAL OF DIRECT COST | 121614 | 432154 | 437423 | 447965 | 458504 | 469044 | 479586 | 490125 | 500667 | 511207 |
| FIXED COST Salaries and wages | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 |
| ADMINISTRATIVE | 8280 | B280 | | 8280 | | 8280- | | 8280 | 8280 | - 8280 |
| HISCELLANEOUS EXPENSES | o | | 0 | 0 | Ċ | 0 | 0 | • | 0 | . 0 |
| n KPREC TAT TON | 1)5010 | 115010 | 010211 | 010211 | 115010 | 010511 | 115010 | 115010 | 115010 | 115010 |
| A A A A A A A A A A A A A A A A A A A | | | 6.5 | | | | | 0 | 0 | i i |
| TATAL OF FIXED COST | 133566 | 235661 | 043551 | 120551 | 120501 | 13061 | 133051 | 133051 | 133051 | 133051 |
| SUNIXX+ta | 162455 | 169956 | 173553 | 181471 | 1 A8873 | 196274 | 203673 | 211074 | 218473 | 225874 |
| | | | | | | | | | | |
| (I) WART DOUL ISTATINI | 9147 | 4573 | 0 | 0 | ø | - O | | • | a | 0 |
| (2) WIEL DONG ISANI | • | 0 | • | 0 | ٥ | 0 | • | • | 0 | 0 |
| | | | | | 0 | -0 | -0 | 0 | -00 | 0 |
| TOIAL | 3332 | 4697 | 62 | 0 | o | 0 | 0 | 0 | 0 | • |
| TOTAL OF PROBUCTION COST | 564512 | 570417 | 271055 | 310185 | 591555 | 50209 | 612637 | 623176 | 633718 | 644258 |
| Net-Earings-Beroke-Tax | | | 1-7349.1 | | | -1-96274- | 203673 | | 218473 | |
| XVI RHODNI | 53593 | 57805 | 60721 | 63514 | 66105 | 69695 | 71285 | 73875 | 76465 | 22052 |
| NST REARINGS RETER TAX | 99530 | 107354 | 112770 | 117957 | 122768 | 127579 | 132388 | 661461 | 142008 | 146819 |
| | | | | | | | | | | - |
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|---|--------------|---------------|--------------|-----------|-------|-------------|-------------|---|------------|
| | PROFIT | EIT AND | 1055 | STATENENT | (3/3) | Base Case I | e I - After | er Renovation | tion |
| PROJECT YEAR Sales volune (Ton/Year) | 18 930362 | 19 939760: | 20 939760 | | · | · | | | |
| RAIIO OF DOMESTIC SALES -(Z)- | 100:00 | | - 100-00 | | | | | | |
| SALES REVENUE | 976880 | 966748 | 986748 | | | | | | |
| EXCISE DUTY | • | 0 | • | | | | | | |
| | 88802 | | 89704 | | | | | | |
| NET SALES REVENUE | 888073 | 897044 | 897044 | | | | | | |
| COST AND EXPRENCE DIRECT COST | | | 100 F | | | | | | |
| CONSUMARLES | 24340 | 24586 | 24586 | | | · . | | | |
| ารกร | 141489 | 142919 | 142919 | | | | | | |
| | 137-115 | 138500 | | | | • | | : | |
| PEPAIR EXFENSES | 17676 | 17855 | 17855. | | | | | | • |
| 846S | 108603 | 109700 | 002601 | | | | | | t. |
| | | | 527019 | | | · · · · | | | |
| FIXED COST Salaries and Wages | 9761 | 9761 | 1926 | | | . · | | | |
| ADMINISTRATIVE EXPENSES | 8280 | 8280 | 8280 | | | | | | |
| MISCELLANEOUS EXPENSES | 0 | 0 | • | | | | | | |
| DEFRECIALION | 010211 | 115010 | 115010 | : . | | | | - | |
| AMORIZATION | 0 | ٥ | 0 | | | | | | |
| TOTAL OF FIXED COST | 133021 | 133051 | 130201 | · | | | | - - - | • . |
| EARNINGS | 233275 | 236974 | 236974 | | | •. | | | |
| INTEREST LONG TERM (1) | o | 0 | 0 | | | | | | |
| INTEREST LONG TERM (2) | <u>a</u> . | 0 | 0 | | | | | | - |
| NATE TAONS ISBUTINE | 0 | ° | 0 | | | | | | |
| IDIAL | Ö | 0 | 0 | | | | | | |
| TOIAL OF PROPUCTION COST | 654798 | 660070 | 660070 | - | | - | | • | : |
| NET SAKINGS PEFORE TAX | 233275 | 236974 | 236974 | - | • | | | 4 . •. | |
| KNCONE TAX | 81646 | 82940 | 82940 | | | | | 2.2.2 A. 2. | |
| NET SARNINGS AFTER TAX | 151629 | 154034 | 154034 | | | | | | * <u>-</u> |
| | | | | | | | | | |

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| | ີ ເບ ເ | | | | Base | Case I | . * | | | |
|---|---|----------|---------|-----------|-----------|--------|--------|----------|----------|----------|
| PROJECT YEAR | 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | 1. .T. | 61 | 0 | 4 | ς, | ¢ | ٢ |
| BARANCE AT BEGINNING OF YEAR | 0 | . • | 0 | 0 | 36035 | 107118 | 166461 | 284063 | 399925 | 587588 |
| EARNINGS | 0 | 0 | 0 | | | 180535 | | -1-93382 | 199805 | 203016 |
| DEPRECIATION | ø | 0 | 0 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 |
| AMORTIZATION | • | 0 | o | 128- | -321 | -321 | -321 | -321 | 126- | -321 |
| Lesingrease-in-ageountrecu- | O | 0 | | 0 | 0 | 0 | | | Q | o |
| TOTAL FROM PRODUCTION | • • | • | ۰ | 218121 | 221332 | 227755 | 234179 | 240602 | 247025 | 250236 |
| PAID IN EQUITY | ٥ | ۰ | ¢ | 0 | 0 | 0 | 0 | 0 | • | 0 |
| | ò | | 324812 | 0 | -0 | 0 | - 0 | . 0. | 0 | • |
| LOAN BORROWING(LONG TERH-2) | O | 66579 | 237633 | o | ٥ | 0 | • | 0 | • | 0 |
| LDAN BORROWING SHORT TERN) | • | o | -3210 | 0 | 0 | .0 | 0 | ¢ | ٥ | 0 |
| 101AL- SOURCE- 0F-CASH | 0 | -157583 | | | | | 420640 | | 646950 - | \$37824 |
| IND X D X D X D X D X D X D X D X D X D X | 0 | 145904 | 501696 | 0 | • | • | 0 | 0 | ٥ | • |
| PRE-OPERATION EXPENCES | 0 | 0 | 0 | ٥ | ۰ | 0 | 0 | \$ | 0 | 0 |
| WDRK INGCAP ITALINCREASE | 0 | | | | -0 | | -0 | | 0 | 0 |
| INCOME TAX REPAYMENT | 0 | 0 | \$ | 16472 | 21946 | 28713 | 35481 | 42249 | 46462 | 49380 |
| LOAN KEPAYMENT LONG TERM-1 | ° | 0 | 0 | 41581 | 41581 | 41581 | 41581 | 41581 | 41581 | 41581 |
| | 0 | 0 | 0 | 60842 | 60842 | | | 60842 | | 0 |
| LOAN REPAYMENT (SHORT TERM) | 0 | • | 0 | -321 | 126- | 1321 | -321- | 1351 | -321 | 1321 |
| (I-HARL SNOT) INIEKERI | 0 | 1364 | 40204 | 41165 | 36591 | 32017 | 27443 | 22869 | 18295 | 13721 |
| | Q | | | | E0612 | 1.4602 | | 0 | • | 0 |
| INTEREST (SHORT TERM) | 0 | ٥ | ۰ | -385 | -347 | 1309 | -269 | -231 | -193 | -154 |
| TAX FOR FROFIT DISTRIBUTED | • | 0 | ٥ | • | 0 | 0 | • | 0 | • | • |
| DIVIDENDS | Q | -0 | | 0 | 0 | | -0 | - 0 | | 0 |
| TOTAL APPLICATION FOR CASH | 0 | 157583 | 559235 | 172086 | 160249 | 148412 | 136577 | 124740 | 59362 | 54827 |
| HET CASH INCREASE | • | ø | 0 | 46035 | 61083 | 79343 | 97602 | 115862 | 187663 | 195409 |
| | 0 | 0 | 0 | | 1-1-2 0-1 | 186461 | | | 885485 | 166284 |
| SALVAGE VALUE | 0 | ¢. | 0 | 0 | 0 | • | 0 | 0 | C | ø |
| CASH FLOW (ROE) | 0 | 0 | Ō | 46035 | 61083 | 79343 | 97602 | 115862 | 187663 | 195409 |
| | 0 | -145904- | | | -258133 | 227755 | | 240602 | -247025 | 250236 |
| CASH FLOW (ROLAT) | 0 | -145904 | -201696 | 201649 | 199386 | 199042 | 198698 | 198353 | 200563 | 200856 |
| CUMULATIVE CASH ELOW(ROIAT) | 0 | -145904 | -647600 | -445951 | -246565 | -47523 | 151175 | 349528 | 220091 | 750947 |
| | | | | | | | | | | |

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| PROJECT YEAR | CASH 8 | 6 H | | STATEMENY (2/3) 10 11 | 13 | 13 | ц 4 | 91 | 16 | 17 |
|--------------------------------|-----------|-----------------|---------------|--------------------------|----------|-----------|-----------|------------|---------|----------|
| BARANCE AT BEGINNING OF YEAR | 782997 | 989366 | 1206693 | 1431767 | 1704485 | 1983627 | 2269191 | 2561179 | 2859591 | 3164425 |
| EARNINGS | 309440 | | | | 231601 | -238023- | | | | 263716 |
| DEPRECIATION | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 |
| AMORTIZATION | -321 | -321 | ICE- | 0 | • | 0 | Q | 0 | 0 | 0 |
| LES-INCREASE-IN-ACCOUNT-RECUM- | -0 | | | -0 | -0 | -0 | -0 | - 0 | 0 | • |
| TOTAL FROM PRODUCTION | 256660 | 263083 | 266296 | 272718 | 279142 | 285564 | 291988 | 298412 | 304834 | 311257 |
| PAID IN EQUITY | 0 | 0 | ٥ | • | 0 | 0 | ø | 0 | 0 | ¢ |
| | -0 | ····0···- ····· | | | -0 | | | | | • |
| LOAN RORROWING (LONG TERM-2) | o | 0 | • | 0 | Ó | • | 0 | 0 | ۰ | 0 |
| LOAN BORROWING(SHORT TERH) | 0 | 0 | 0 | 0 | 0 | 0 | O | 0 | 0 | 0 |
| TOTAL-SOURCE-UF-CASH | | | | | 1 983627 | 2269191 | 2561179 | | 3164425 | 3475682 |
| I NS H SUCA | 0 | o | 0 | 0 | 0 | 0.2 | 0 | Q | 0 | 0 |
| PRE-OFERATION EXPENCES | 0 | 0 | • | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WORKING CAPITAL-INCREASE | -0 | | -0 | -0 | -0 | -0 | -0 | -0 | -0 | 0 |
| INCOME TAX REPAYMENT | 66363 | 57805 | 60721 | 63514 | 66105 | 68695 | 21285 | 73875 | 76465 | 79055 |
| LOAN REPAYMENT(LONG TERN-1) | 41581 | 41501 | 11581 | 0 | • | • | .0 | 0 | ٥ | ō |
| - LOAN-REPAYAENT4LONG-TERH-2) | 0 | 0 | -0 | -0 | -0 | -0 | -0 | 0 | | 0 |
| LOAN REPAYMENT(SHORT TERM) | -321 | -321 | -321 | o | ø | 0 | 0 | • | • | , o |
| INTEREST (LONG TERM-1) | 9147 | 4573 | . O | 0 | 0 | 0 | 0 | 0 | ø | 0 |
| -INTEREST(LONG-TERH-2) | -0 | | ····• | -0 | | -0 | -0 | -0 | -0 | 0 |
| INTERESI (SHORT TERM) | -116 | -22 | អ ភ្ល ព | 0 | ¢ | 0 | 0 | 0 | 0 | 0 |
| TAX FOR PROFIT DISTRIBUTED | 0 | • | • | • | 0 | Ø | • | 0 | o | 0 |
| DIVIDENDS | -0 | -0 | 0 | | -0 | -0 | | 0 | -0 | 0 |
| IGTAL APPLICATION FOR CASH | 50291 | 45756 | 41222 | • | • | • | o | 0 . | ø | 0 |
| NET CASH INCREASE | 206369 | 217327 | 225074 | 272718 | 279142 | 285564 | 391988 | 298412 | 304834 | 311257 |
| - BALANCE-AT-END-OF-YEAR- | | -1-1-206693- | 1431767 - | 1-704485- | 1983627 | -2269191- | -641-1-26 | | | 3475682 |
| SALVAGE VALUE | 0 | • | • | 0 | ¢ | • | • | 0 | 0 | 0 |
| CASH ELDW (RDE) | 206369 | 317327 | 225074 | 272718 | 279142 | 285564 | 291988 | 298412 | 304834 | 311257 |
| CASH-ELOU-(ROIRT) | | | | | -24142- | 285564- | -886162 | | 304834 | 311257 |
| CASH FLOW (ROIAT) | 203067 | 205278 | 202675 | 209204 | 213037 | 216869 | 220703 | 224537 | 228369 | 202262 |
| CUMULATIVE CASH FLOW(ROIAT) | 9540T4 | 1159292 | 1364867 | 1574071 | 1787108 | 2003977 | | 2449217 | 2677586 | 2909788 |
| | | | | | | | | | | |

| PROJECT YEAR Barance at secinning of Year | 18 3475682 3 | 2903362 3793362 | 411 | 20 A255 | | | | | | |
|--|-----------------|--------------------|---------|---|---|---------------------------------------|-----------------|----------|--------|---|
| erknings | 270139 | 273352 | 273352 | | | | | | | |
| DEPRECIATION | 47541 | 47541 | 47541 | | | · · · · | : : : | | | : |
| AHORTIZATION | ō | 0 | o | | | | | | | |
| VI RECU | 0 | 0 | 0 | | | | • | | | |
| TOTAL FROM PRODUCTION | 317680 | 320893 | 320893 | | | · · · · · · · · · · · · · · · · · · · | | i | ł | |
| PAID IN EQUITY | 0 | 0 | 0 | | | | | | | |
| LOAN BORROWING LONG TERM-1) | 0 | 0 | 0 | | | | | | | |
| LOAN BORROWING (LONG TERM-2) | 0 | 0 | 0 | | | | | - | • . | |
| LOAN BORROWING (SHORT TERM) | 0 | • | Ð | | | | | | | |
| CE DE | 3793362 | 4114255 | 4435148 | | | | | | | |
| INVESNENT | o | 0 | • | | | | | | • | |
| PRE-OPERATION EXPENCES | o | ٥ | 0 | | | | | | | |
| WORKING CAPITAL INCREASE | • | • | 0 | ÷ | | | | | | |
| INCOME TAX REPAYRENT | 81646 | 82940 | 82940 | | | eren anterio e | | | ÷ | |
| LOAN REPAYNENT(LONG TERM-1) | 0 | 0 | 0 | | - | | | | ·. | |
| LOAN REPAYMENT(LONG TERM-2) | ò | 0 | • | | • | | | • | | |
| LUAN REPAYMENT (SHORT TERM) | 0 | 0 | 0 | | | | | | ۱ | |
| INTERST (LONG TERM-1) | • | O, | 0 | • • • | 1 | | • | | | ÷ |
| INTEREST (LONG TERN-2) | • | 0 | 0 | | | | | | | |
| INTEREST (SHORT TERM) | 0 | 0 | 0 | | | | | Ì | | |
| IAX EDR PROFIT DISTRIBUTED | 0 | 0 | 0 | | | • | | | | |
| DIVIDENDS | ¢ | 0 | 0 | | | | | | • | |
| TOTAL APPLICATION EDR CASH | 0 | 0 | 0 | | | | | | : * | |
| NET CASH INCREASE | 317680 | 320893 | 320893 | | | | | | | |
| BALANCE AT END OF YEAR | 3793362 | 4114255 | 4435148 | | | | | | | |
| SALVAGE VALUE | 0 | 0 | 0 | | | | | | | |
| CASH FLOW (ROE) | 317680 | 320893 | 268022 | | | | | 1 | | |
| CASH FLOW (RDIRT) | 317680 | 320893 | 320893 | | | 1 | | | | |
| CASH FLOW (RDIAT) | 236034 | 237953 | 237953 | • | | | | | | |
| CUMULATIVE CASH FLOW(RGIAT) | 3145822 | 3383775 | 3621728 | | | | | | | ÷ |

36 0 % 36 0 % 4.9% 7-6-1---19 YEAR , SALES VOLUME =100.0 , BREAK-EVEN POINT= -19--YEAR-----SALES--VOLUME-=100:0 , BREAK-EVEN-POINT=-19 YEAR , SALES VOLUME =100.0 , BREAK-EVEN POINT= 19 YEAR , SALES VOLUME =100.0 , BREAK-EVEN POINT= ł ł • HINCH 2 • 0.3329 თ ; 0,2883 -----J-*--DCE---KATE--{-E-IKK0E----}-----3 YEAR ----- BREAK-EVEN FOINT -----1. DRDINARY BREAK-EVEN POINT R 2. DCF RAIE (FIKROIBT) =-3. DCF RAIE (FIRROIAT) = -----DGE -RATE ------2. CASH BREAK-EVEN POINT ZERO POINT OF PAYOUT ---- PAYOUT ----1 ł ł

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| Inter real Inter r | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | • | TI SORY | IT AND | SSOT | - STATEHENT | (1/3) | Base (| Case II | - Before | e Renovation | tion | | |
|---|--|----------------------------------|--------------------------|------------|----------|-------------|---------|--------|---------|----------|--------------|---------|------|--|
| (WA) (0) <th>Weak O</th> <th>JECT YEAR</th> <th>(7) 1</th> <th>61 1</th> <th>ក្នុ</th> <th>. 1</th> <th>(1</th> <th>ო</th> <th>4</th> <th>5</th> <th>ئ</th> <th>6</th> <th></th> <th></th> | Weak O | JECT YEAR | (7) 1 | 61 1 | ក្នុ | . 1 | (1 | ო | 4 | 5 | ئ | 6 | | |
| BALES (1) 0.00 0.00 100.00 | Bills (1) 0.00 | ES-VOLUNE(TON/YEAR) | | 0 | | | | | | 698122 | | | | |
| 0 | 0 | IO DE DOMESTIC SALES (Z) | 0.00 | 0.00 | 0.00 | 100.00 | 100-001 | 100.00 | 100.00 | 100-00 | 100.00 | 100.001 | | |
| 0 | 0 0 6 (3114 6.53% 6.4339 7.439 7.439 7.44 | ES KEVENUE | • | o ' | 0 | 674464 | 692693 | 126014 | 729150 | 738264 | 256493 | 774722 | | |
| 0 0 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 | 0 0 61314 6.572 64539 6.6364 67713 70439 0 0 0 613140 6.3720 64539 6.6364 67713 70439 1 0 0 0 613140 6.3570 64339 70199 71959 7459 7459 1 0 0 0 0 13010 13344 7127 33950 6559 64399 70191 21749 21733 13100 13344 7532 76459 6559 0 0 0 12118 11445 12773 13100 13344 13593 23919 6559 0 0 12118 12445 13773 13100 13344 13592 13919 6559 0 0 12118 12445 53147 56073 57684 53114 6510 0 0 12118 12445 63177 56073 57684 53114 | | | | 0 | | | | 0 | | 0 | 0 | | |
| 0 | 0 | SALES TAX | 0 | ٥ | 0 | 61314 | 24629 | 64629 | 66286 | 67114 | 68772 | 70429 | | |
| 0 | 0 | SALES REVENUE | ø | ٥ | • | 613150 | 629720 | 646292 | 662864 | 671150 | 687721 | 704293 | | |
| 0 0 0 66595 66395 70195 71295 74595 75696 74951 72696 73945 7495 75495 | 0 | T-AND-EXPRENCE | ومراجع والمراجع والمراجع | | | | | | | | | | • | |
| 0 0 3301 33956 34890 35785 36222 37127 36022 0 0 0 0 0 13465 12573 13100 13264 13919 0 0 0 0 12118 12445 12773 13100 13264 13919 25053 25373 25093 25958 13919 0 0 0 0 12118 12445 12773 13100 13264 13919 25953 55684 55317 269513 253913 25053 55684 55319 0 0 0 0 12445 12773 13100 13264 15930 256319 256319 256319 256319 0 0 0 0 0 12445 12773 16497 55341 55043 55684 55319 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 33101 33995 34690 35785 36232 37127 38022 0 0 0 0 0 12146 12345 12373 13100 13564 13591 220274 0 0 0 0 12146 12345 12373 13100 13564 13593 55603 552870 23953 0 0 0 0 12146 12345 13100 13544 13573 13109 0 0 0 0 0 12146 12345 53637 24870 25880 55317 0 0 0 0 12145 12375 53477 26380 53014 0 0 0 13100 13264 13573 53149 0 0 0 13240 13100 13564 55317 55327 53292 0 0 0 0 13240 1340 13243 55329 | RAW MATERIAL | • | • | o | 66599 | 68339 | 20199 | 71999 | 72899 | 74699 | 76499 | | |
| 0 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | CONSUMABLES | 0 | 0 | 0 | 10166 | 33996 | 34890 | 35785 | 36232 | 37127 | 38022 | | |
| 0 0 0 225450 231543 237537 24577 235870 236963 10 0 0 12118 12445 12773 13100 13541 13592 13919 10 0 0 0 12118 12445 12773 13100 13541 25592 13919 10 0 0 0 9492 9492 9492 9492 9595 65194 633194 15 0 0 0 9492 | 0 0 0 223450 231543 235637 243730 24577 232870 23693 23693 0 0 0 0 13116 13100 13264 13592 13919 0 0 0 0 13116 13450 53143 13100 13264 13592 13919 0 0 0 0 0 13100 13100 13264 13592 13919 155 0 0 0 0 13100 13264 53613 55693 55693 55693 55693 55693 155 0 0 0 0 13260 53610 53613 55613 5492 53914 157 0 0 0 0 0 13264 53614 53913 158 0 0 13264 53616 53614 53614 53613 5492 5492 1511 0 0 0 | | | | 0 | | -196950 | 202133 | 207316- | 20,9908 | | | | |
| 0 0 0 12118 12445 12773 13100 13564 13593 13919 00 0 0 0 7480 76402 78475 00497 13939 13939 13939 13939 13939 15513 0051 0 0 0 0 0 0 7480 76405 650177 650573 650319 65319 0051 0 0 0 0 0 13930 65319 65319 FFNSE5 0 0 0 0 12460 64122 949246 67465 67465 < | 0 0 0 13118 12445 13100 1364 13592 13919 0 0 0 0 1450 76402 78475 13100 1364 13691 13919 10 0 0 0 0 1450 76402 78475 13100 1363 65313 65313 65313 10 0 0 0 0 9492 9492 9492 9531 653194 15 0 0 0 1245 5492 5492 5492 653194 653194 15 0 0 0 12492 5492 5492 653194 653194 15 0 0 0 1260 <th126< th=""> <th126< th=""> 1260</th126<></th126<> | ELECTRIC POWER | 0 | 0 | ¢ | 225450 | 231543 | 237637 | 243730 | 246777 | 252870 | 258963 | | |
| CIST 0 | 0 | PEPAIR EXPENSES | ° 0 . | 0 | Φ. | 12118 | 12445 | 12773 | 13100 | 13264 | 13592 | 61661 | | |
| IDENT 0 <td>IDENT 0 0 0 03466 619795 636107 653117 660573 67684 63114 IS 0 0 0 9492 9493 9404 944 944 964 9645 96445</td> <td>500 A A</td> <td></td> <td></td> <td></td> <td></td> <td>-76462</td> <td> 78475</td> <td></td> <td></td> <td> 83505</td> <td> 85517</td> <td></td> <td></td> | IDENT 0 0 0 03466 619795 636107 653117 660573 67684 63114 IS 0 0 0 9492 9493 9404 944 944 964 9645 96445 | 500 A A | | | | | -76462 | 78475 | | | 83505 | 85517 | | |
| 15 0 0 0 9492 9404 9404 9445 86045 < | Image: Second | TOTAL OF DIRECT COST | o | 0 | 0 | 603486 | 619795 | 636107 | 652417 | . 660573 | 676884 | 693194 | | |
| CENSES 0 7492 7492 7492 7492 7492 7492 7492 7492 7492 7492 7492 7493 7433 7433 7433 7433 7433 7433 7433 7434 7434 7434 7434 7434 7434 7434 7434 7434 7434 7434 7434 7434 7434 7543 7643 7643 <th7< td=""><td>Free 7472 7472 7472 7472 7472 7472 7472 7472 7472 7472 7472 7472 7472 742 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7474 7747 7747 7747</td><td>FIXED COST SALABIES AND ULORS</td><td>· <</td><td></td><td>ć</td><td></td><td></td><td>6970</td><td>010</td><td></td><td>C 6 7 B</td><td>040</td><td></td><td></td></th7<> | Free 7472 7472 7472 7472 7472 7472 7472 7472 7472 7472 7472 7472 7472 742 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7473 7474 7747 7747 7747 | FIXED COST SALABIES AND ULORS | · < | | ć | | | 6970 | 010 | | C 6 7 B | 040 | | |
| FENSES 0 0 6280 8280 8280 8280 8300 830 | FFMSES 0 0 0 1280 3281 6745 5943 </td <td></td> <td></td> <td>·</td> <td></td> <td>7646</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | · | | 7646 | | | | | | | | |
| FENSES 0 <td>FENSES 0 1469 67410 67</td> <td>ADHINISTRATIVE EXPENSES</td> <td>0</td> <td>ò</td> <td>0</td> <td>8280</td> <td>8280</td> <td>8280</td> <td>9280</td> <td>8280</td> <td>8280</td> <td>8280</td> <td></td> <td></td> | FENSES 0 1469 67410 67 | ADHINISTRATIVE EXPENSES | 0 | ò | 0 | 8280 | 8280 | 8280 | 9280 | 8280 | 8280 | 8280 | | |
| 0 0 0 0 67469 67496 76431 76431 76431 76431 76431 76431 | | MISCELLANEOUS EXPENSES | 0 | o | 0 | 0 | 0 | 0 | 0 | •` | 0 | o , | | |
| 0 0 0 0 804 | 0 0 0 0 804 804 804 804 804 804 051 0 0 0 8045 86045 <th8< td=""><td>DEFRECIATION</td><td>0</td><td>0</td><td>o</td><td>67469</td><td>67469</td><td>67469</td><td>67469</td><td>67469</td><td>67469</td><td>67469</td><td></td><td></td></th8<> | DEFRECIATION | 0 | 0 | o | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | | |
| J51 0 0 0 0 86045 | J3T 0 0 0 0 86045 7530 77306 77345 77306 77345 77306 77345 77345 77345 77343 9281 RM (1) 0 | AMORTIZATION | • | ø | 0 | 804 | 804 | 804 | 804 | 804 | 804 | 804 | | |
| 0 0 0 -76381 -76120 -75860 -75598 -75468 -75208 -74946 RM (1) 0 | 0 0 0 0 -76381 -76120 -75860 -75598 -75208 -75208 -74946 RM (1) 0 | TOTAL OF FIXED COST | 0 | 0 | • | 96045 | 86045 | 86045 | 86045 | 86045 | 850.45 | 86045 | | |
| KH (1) 0 | RH (1) 0 | EARNINGS | 0 | 0 | 0 | -76381 | -76120 | -75860 | -75598 | -75468 | -75208 | -74946 | Ba | |
| KM (1) 0 <td>KM (1) 0<td>WINANCIAL CHARGE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>ase</td><td></td></td> | KM (1) 0 <td>WINANCIAL CHARGE</td> <td></td> <td>ase</td> <td></td> | WINANCIAL CHARGE | | | | | | | | | | | ase | |
| RM (2) 0 | KM (2) 0 | INTEREST LONG TERM (1) | 0 | 0 | • | . • | • | 0 | 0 | ø | 0 | 0 | C | |
| E8M 0 0 0 965 2054 3241 4540 5964 7543 9281 ST 0 0 565 2054 3241 4540 5964 7543 9281 ST 0 0 565 2054 7333 743002 7543 9281 ST 0 0 0 565 2054 732593 743002 753582 788520 0 0 0 0 57346 77894 725393 743002 753582 788520 0 0 0 0 -77346 -779101 -80138 -81432 -84227 0 | E8M 0 0 0 965 2054 7543 9281 57 0 0 0 965 2054 3241 4540 5964 7543 9281 57 0 0 0 965 2054 7533 7430 9281 57 0 0 0 696496 707894 725393 743002 755622 770472 788520 0 0 0 0 0 575146 -79101 -80138 -81432 -62751 -84227 0 </td <td>TERM</td> <td>•</td> <td>0</td> <td>0</td> <td>o</td> <td>0</td> <td>0</td> <td>0</td> <td>۰.</td> <td>0</td> <td>0</td> <td>ase</td> <td></td> | TERM | • | 0 | 0 | o | 0 | 0 | 0 | ۰. | 0 | 0 | ase | |
| 0 0 0 565 2054 3241 4540 5964 7543 9281 51 0 0 0 0 0 0 70476 788520 0 0 0 0 0 525393 743002 755582 770472 788520 0 0 0 0 -77346 -78174 -75101 -80138 -81432 -84227 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0 0 555 2054 3241 4540 7543 9281 51 0 0 0 690496 707894 725393 743002 752582 770472 788520 0 0 0 0 -77346 -79101 -80138 -81432 -82751 -84227 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -77346 -79101 -80138 -81432 -82751 -84227 0 0 0 0 0 0 0 0 0 0 0 0 0 -77346 -79174 -79101 -80138 -81432 -84227 | INTEREST SHORT TERM | 0 | 0 | 0 | 965 | 2054 | 3241 | 4540 | 5964 | 7543 | 9281 | • I) | |
| ST 0 0 0 690496 707894 725393 743002 752582 770472 0 0 0 -77346 -78174 -79101 -80138 -81432 -82751 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -77346 -78174 -79101 -60136 -81432 -62751 | ST 0 0 0 690496 707894 725393 743002 752582 770472 0 0 0 -77346 -78174 -79101 -80138 -81432 -82751 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 -77346 -78174 -79101 -80138 -81432 -62751 0 0 0 0 -77346 -79174 -79101 -80138 -81432 -62751 | TOTAL | ð | ð | 0 | 965 | 2024 | 142E | 4540 | 5963 | 7543 | 1826 | Ĺ | |
| 0 0 0 -77346 -78174 -79101 -80138 -81432 -82751 -8422 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0 -78174 -79101 -80138 -81432 -82751 -8422 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | AL OF PRODUCTION COST | 0 | 0 | .0 | 690496 | 707894 | 725393 | 743002 | 752582 | 770472 | 788520 | • | |
| 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | r EARINGS BEFORE TAX | 0 | 0 | 0 | -77346 | -78174 | 10162- | -80138 | -81432 | -82751 | -84227 | | |
| 0 0 -77346 -78174 -79101 -80138 -81432 -82751 | 0 077346 -78174 -79101 -60136 -61432 -62751 | NDAR TAX | 0 | 0 | ø | • | ¢ | O | 0 | 0 | 0 | 0 | | |
| | | I EARNINGS AFTER TAX | 0 | 0 | 0 | -77346 | -78174 | 10162- | -80138 | -81432 | -82751 | -84227 | | |

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| | PROFIT | FIT AND | SSOT | staterent | (3/3) | Base C | Case II - | - Before | Renovation | tion |
|--|--------|---------|--------|-----------|--------|--------|-----------|----------|------------|------------------|
| PROJECT YEAR | 8 | G | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| SALES_UOLUNE_(JON/2 EAR) | | | | | | | | | 861880 | .861880 |
| RATID OF DOMESTIC SALES (2) | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| SALESREVENUE | 792950 | 6/118 | 829407 | 847637 | 865866 | 884094 | 902323 | 911438 | 911438 | 911438 |
| EXGISS_DUTY | 0 | 0 | -0 | 0 | | | 0 | | 0 | 0 |
| SALES TAX | 98024 | 64464 | 75400 | 77057 | 21787 | 60372 | 82029 | 82828 | 82858 | 82858 |
| NET SALES REVENUE | 720864 | 737436 | 754007 | 770580 | 787151 | 803722 | 820294 | 828280 | 828580 | 828580 |
| COST-AND-EXPRENCE | | | | , · | | | | | | |
| RAW MATERIAL | 78299 | 80099 | 81899 | 66988 | 85499 | 87299 | 66068 | 66668 | 86668 | 86668 |
| CONSUMARLES | 38916 | 11962 | 40706 | 41600 | 12495 | 43390 | 44284 | 44732 | 44732 | 44732 |
| | | | 235822 | | 246188 | | | | | |
| ELECTRIC POWER | 265056 | 271150 | 277243 | 283336 | 289429 | 295523 | 301616 | 304663 | 304663 | 304663 |
| PEPAIR EXPENSES | 14247 | 14574 | 14902 | 15229 | 15557 | 15884 | 16212 | 16376 | 16376 | 1,6376 |
| ······································ | 87529 | | | | | | | | | 609001 |
| TOTAL OF DIRECT COST | 709504 | 725815 | 742126 | 758435 | 774746 | 791057 | 807367 | 815525 | 815525 | 815525 |
| FIXED COST Salaries and uages | 9492 | 9492 | 9492 | 5492 | 9492 | 9492 | 9492 | 9492 | 9492 | 9492 |
| AUMINISTRATIVE EXPENSES | 8260 | 8280 | 8280 | 8280 | 8280 | 8280 | 6280 | 8280 | 8260 | 8260 |
| HISCELLANEOUS EXPENSES | 0 | 0 | 0 | o | 0 | • | 0 | • | 0 | • |
| DEPRECIATION | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 | 67469 |
| AHORTIZATION | 804 | 804 | 811 | 0 | 0 | 0 | 0) | • | 0 | 0 |
| TOTAL DE EIXEN COST | 86045 | 86045 | 86052 | 85241 | 85241 | 85241 | 85241 | 85241 | 85241 | 85241 |
| EARNINGS | -74685 | -7424 | -74171 | 96082- | -72836 | -72576 | -72314 | -72186 | -72186 | -72186 |
| FINANCIAL CHARGE | | | | | ÷. | - | | | | - - - - |
| INTEREST LONG TERM (1) | 0 | 0 | 0 | 0 | o | 0 | 0 | Q | 0 | 0 |
| INTEREST LONG TERM (2) | 0 | 0 | 0 | O, | • | 0 | 0 | 0 | 0 0 | 0 |
| INTEREST SHORT TERH | 11195 | 13307 | 15643 | 18228 | 10012 | 24266 | 27790 | 31707 | 36077 | 40973 |
| TOTAL | 11195 | 13307 | 15643 | 16228 | 21091 | 24265 | 27790 | 31707 | 36077 | 40973 |
| TOTAL OF PRODUCTION COST | 806744 | 825167 | 843821 | 861904 | 881078 | 900564 | 920398 | 932473 | 936843 | 941739 |
| NET EAKINGS BEFORE TAX | -85880 | -87731 | -89814 | -91324 | -93927 | -96842 | -100104 | -103893 | E928011 | -113159 |
| INCOME TAX | 0 | 0 | • | 0 | • | 0 | 0 | 0 | 0 | • |
| VET SARVINGS AFTER TAX | -85880 | -87731 | -89814 | -91324 | -93927 | -96842 | -100104 | -103893 | -108263 | -113159 |
| | | | | | | | | | | |

| | PRO | PROEIT AND | LOSS | STATEMENT | (2/3) | Base C | Case II - | Before Renovation | Renovatí | цо |
|---|--------------|--------------|--------------|-----------|-------|--------|-----------------------------|------------------------------------|----------|-------|
| PROJECT YEAR Sales Volune (Ton/Year) | 18 861880 | 19 861880 | 20 861880 | | | | | | | |
| RATID DE DOMESTIC SALES (2) | 100.00 | 100.00 | 100-00 | | | | | | | |
| SALES REVENUE | 911438 | 911438 | 911438 | | | | | | • | |
| SXING SSICKS | 0 | • | 0 | | · | | - | | | |
| SALES TAX | 82858 | 82858 | 82858 | | | | | | 1 | |
| NET SALES REVENUE | 828580 | 828580 | 828560 | | | | • | | | |
| COST AND EXPRENCE | | | | | | | | | | |
| KAU MATERIAL | 66668 | 66668 | 89999 | | | · · | | | • | |
| CONSUMABLES | 44732 | 44732 | 44732 | | - | ÷ | | | | |
| Tana | 259146 | 259146 | 259146 | | | . • | | | | |
| ELECTRIC PONER | 304663 | 304663 | 304663 | | | • | | | | |
| PEPAIR EXPENSES | 16376 | 16376 | 16376 | | | | | | | |
| BAGS | 100609 | 100609 | 100609 | | | | ÷. | | ı | |
| TOTAL OF DIRECT COST | 815525 | 815525 | 812525 | | | | | | | |
| FIXED COST Salakies and wages | 9492 | 9492 | 9452 | | | | ۰. ۲ ۰ | | | |
| ADMINISIKATIVE-EXPENSES | 8280 | | | | | | | | : | • |
| HISCELLANEOUS EXPENSES | O | 0 | 0 | | | | • • | | | • |
| DEFRECIATION | 67469 | 67469 | 67469 | | | | | | | |
| AMORTIZATION | -0 | ····· 0 | -0- | | | | | a managan panganan na manganan san | | •.••• |
| TOTAL OF FIXED COST | 85241 | 85241 | 85241 | | | | | | • | |
| S S N I N S S S S S S S S S S S S S S S | -72186 | -72186 | -72186 | | • | | • | •. | | • |
| | | | | | | | | | | • |
| INTEREST LONG TERH (2) | 0 | Q. | 0 | | | | | | | |
| NAT THORS ISHORI IRRA | 46455 | 52596 | 59474 | | | | | • | • | · |
| TAL | | 23236 | | | | | ومراجعتها والمستري والمستري | | | 1 |
| TOTAL OF PRODUCTION COST | 947221 | 953362 | 960240 | | | | | | | |
| NET EARINGS BEFORE TAX | -118611 | -124782 | -131660 | | · | | | | | |
| INCOMSTRAX | 0 | | 0 | | | | | | | - |
| NET RARNINGS AFTER TAX | -118641 | -124782 | -131660 | | | | | · | · | · |

| | PROFI | T AND | 10\$5 | STATENENT | (1/3) | Base | Case II | - After | r Renovation | tion |
|---|------------|--------------|------------|-----------|---|--------|---|---------------------------------------|-----------------------------------|---------|
| FROJECT YEAK | 0 1 | લ 1 | | 1 | ~ ~ | ო | 4. | ມງ | . 9 | 2 |
| SALES | 0 | 0 | 0 | | - 655028 | 672266 | | -698122 | 715360 | 732598 |
| KATID OF DOMESTIC SALES <2> | 0.00 | 00.0 | 0.00 | 100.00 | 100-001 | 100-00 | 100.00 | 100-00 | 100-00 | 100-00 |
| SALES REVENUE | 0 | • | 0 | 674464 | 692692 | 710921 | 729150 | 738264 | 756493 | 774722 |
| | 0 | 0 | | ·0 | ····0···· | | 0 | · · · · · · · · · · · · · · · · · · · | 0 | • |
| SALES TAX | ¢ . | 0 | 0 | 61314 | 62972 | 64629 | 66286 | 67114 | 68772 | 70429 |
| NET SALES REVENUE | ø | 0 | 0 | 613150 | 629720 | 646292 | 662864 | 671150 | 687721 | 704293 |
| COST-AND-EXPRENCE | • | G | . . | C78C2 | 4050 905 905 905 905 905 905 905 905 905 | 5500E | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 9 LCC 7 | 900 00 00 00 00 00 | |
| CONSUMABLES | • | 0 | • • | 17355 | 17825 | 18294 | 18763 | 18997 | 19466 | 19935 |
| EURI- Contraction of the second se | 0 | ····-0- ···- | 0 | | 81-9801 | 111476 | 1.14335- | 1-15764 | 118622 | 137131. |
| ELECTRIC FONER | 0 | o | • | 98491 | 101152 | 103814 | 106476 | 107807 | 110469 | 113131 |
| PEPAIK EXPENSES | Q | ò | o | 12118 | 12445 | 12773 | 13100 | 13264 | 13592 | 13919 |
| | 0 | | | 74450 | 76462 | | 80487- | | 83505 | 85517 |
| TOTAL OF DIRECT COST | • | • | 0 | 370036 | 380036 | 990038 | 400039 | 65030\$ | 415040 | 425041 |
| FIXED COST Salaries and wages | • | 0 . | | 1976 | 9761 | 9761 | 9761 | 1976 | 9761 | 9761 |
| ADMINISTRATIVE EXPENSES | 0 | ٥ | 0 | 8260 | 8260 | 8280 | 8280 | 8280 | 8280 | 8280 |
| HISCELLANEOUS EXPENSES | 0. | 0 | o | 0 | 0 | 0 | 0 | 0 | Ċ | ø |
| DEPRECIATION | • | 0 | 0 | 115010 | 115010 | 115010 | 010211 | 115010 | 010211 | 115010 |
| AMORTIZATION | 0 | 0 | 0 | 489 | 489 | 489 | 489 | 489 | 485 | 489 |
| IGTAL OF FIXED COST | 0 | 0 | 0 | 133540 | 133540 | 133540 | 133540 | 133540 | 133540 | 133540 |
| EARNINGS | \$ | 0 | 0 | 109574 | 116144 | 122714 | 129285 | 132571 | 139141 | 145712 |
| FINANCIAL CHARGE | | | | | | | | · . · | | - |
| INTEREST LONG TERM (1) | 0 | 0 | 0 | 41165 | 36291 | 2102E | 27443 | 22869 | 18295 | 13721 |
| INTEREST LONG TERH (2) | 0 | 0 | 0 | 29204 | 21903 | 14602 | 7301 | 0 | • | ¢ |
| INTEREST SHORT TERM | ٥ | 0 | 0 | 282 | 528 | 469 | 411 | 352 - | 293 | 234 |
| TOTAL | ۰ | • | • | 70956 | 59022 | 47088 | 32122 | 12321 | 18588 | 13955 |
| TCTAL OF PRODUCTION COST | ٥ | 0 | 0 | 574532 | 572598 | 570666 | 568724 | 561800 | 567168 | 572536 |
| NET EAKINGS BEFORE TAX | ø | 0 | ¢ | 38618 | 57122 | 75626 | 94130 | 109350 | 120553 | 131757 |
| INCOME TAX | 0 | o | . 0 | 13516 | 19992 | 26469 | 32945 | 38272 | 52193 | 46114 |
| ZHI HARNINGS AFTER TAX | 0 | 0 | o | 25102 | 37130 | 49157 | 61185 | 71078 | 78360 | 85643 |
| | | | | | ••• | | | | | |

Base Case II

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| | | | | | | | | | | · |
|--|--------|----------------|---------|-----------|------------|---------|-----------|---------|------------|--------|
| | | | | | · | | | | | |
| | PROFIT | UNA IIS | SSOT | STATEMENT | (2/3) | Base C | Case II - | - After | Renovation | ion |
| PROJECT YEAR | 8 | 6. | 10 | 11 | 12 | 13 | 1. | 15 | 16 | 17 |
| SALESVOLUNE (TON/YEAR) | 749835 | 267073 | | | -818786 | -836023 | | | 861880 | 861880 |
| KATIO OE DOMESTIC SALES (2) | 100-00 | 100.001 | 100.00 | 100.001 | 100.00 | 100.00 | 100.00 | 100.00 | 100-00 | 100.00 |
| SALES REVENUE | 792950 | 81119 | 829407 | 847637 | 365866 | 884094 | 902323 | 911438 | 911438 | 911438 |
| | | ····· 0····· | | | | 0 | | | 0 | 0 |
| SALES TAX | 72086 | 64464 | 75400 | 17057 | 78715 | 80372 | 82029 | 82828 | 82828 | 83828 |
| NET SALES REVENUE | 720864 | 737436 | 754007 | 770580 | 181787 | 803722 | 820294 | 828580 | 828580 | 828580 |
| COST-AND-EXPRENCE | 72730 | 74402 | 76074 | 77746 | 79418 | 81090 | 82762 | 83598 | 83298 | 83298 |
| CONSUMABLES | 20404 | 20874 | 21343 | 21812 | 22281 | 22750 | 33219 | 23454 | 23454 | 23454 |
| EDEL | 124339 | | -130026 | | -135773 | 138631 | 68714 | | 142919 | 142919 |
| ELECTRIC FONER | 112793 | 118455 | 121117 | 123775 | 126441 | 129103 | 131765 | 133096 | 133096 | 133096 |
| PEFAIR EXPENSES | 14247 | 14574 | 14902 | 15229 | 15551 | 15884 | 16212 | 16376 | 16376 | 16376 |
| B405 | | | | | 92228 | | | 00900 | 60900 [| 100609 |
| TOTAL OF DIRECT COST | 435042 | 445044 | 455046 | 465046 | 475048 | 485048 | 495049 | 500052 | 200022 | 500053 |
| FIXED COST Salaries and Wages | 1976 | 9761 | 9761 | 9761 | 9761 | 9761 | 5761 | 9761 | 9761 | 5761 |
| ADHINISTRATIVE EXPENSES | 3280 | 8260 | 8280 | 8280 | 8280 | 8280 | 8280 | 8280 | 8280 | 6280 |
| HISCELLANEOUS EXPENSES | • | 0 | 0 | 0 | , O | 0 | 0 | • | • | ¢ |
| DEFRECIATION | 115010 | 115010 | 115010 | 115010 | 010511 | 115010 | 115010 | 115010 | 115010 | 115010 |
| AMORTIZATION | 484 | 489 | 491 | 0 | 0 | 9 | 0 | • | 0 | 0 |
| TOTAL OF FIXED COST | 133540 | 133540 | 133542 | 130651 | 130551 | 133051 | 133051 | 13021 | 133051 | 130551 |
| ZARNINGS | 152282 | 158852 | 165419 | 172483 | 179052 | 185623 | 192194 | 195477 | 195477 | 195477 |
| FINANCIAL CHARGE | | | | | | | | | | |
| INTEREST LONG TERM (1) | 2147 | 4573 | 0 | 0 | 0 | 0 | Ö | 0 | 0 | 0 |
| INTEREST LONG TERM (2) | 0 | o | 0 | 0 | 0 | ٥ | • | 0 | • | 0 |
| NATE REAL OF DESCRIPTION OF THE REAL PROPERTY OF TH | 176 | 117 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 8226 | 4690 | ல ற | 0 | 0 | 0 | • | 0 | .0 | 0 |
| TOTAL OF PRODUCTION COST | S77905 | 472E8 2 | 598646 | 298097 | 608099 | 618099 | 628100 | 633103 | 633103 | 633103 |
| NET EARINGS REFORE TAX | 142959 | 154162 | 165361 | 172485 | 179052 | 185623 | 192194 | 195477 | 195477 | 195477 |
| INCOME 24X | 50035 | 23956 | 57876 | 60369 | 62668 | 64968 | 67267 | 68416 | 68416 | 68416 |
| NET RAFINGS AFTER TAX | 92924 | 100206 | 107485 | 112114 | 116384 | 120655 | 124927 | 127061 | 127061 | 127061 |
| | | | | | | | | | | |

| ! | , PROFIT | FIT AND | 1055 | STATENENT | (3/3) | | 11 0000 | - Aftor | After Penomation | |
|---|--------------|--------------|--------------|-----------|-------|-------------------------|----------|---------|-------------------|---|
| | | | | | | リ の す の | 1 T DODO | UT CCT | | |
| PROJECT YEAR Sales Volune (Ton/Yeak) | 18 861880 | 19 861880 | 20 861880 | - | , | | | | | |
| RATID OF DOMESTIC SALES (2) | 100.00 | 100.00 | 100.00 | | | 1 | | | | : |
| SALES REVENUE | 911438 | 911438 | 911438 | - | | | | | | |
| EXCISE BUTY | 0 | ¢ | 0 | | | ÷ | | . • | | |
| SALES TAX | 82828 | 82858 | 82828 | | | | | | · · · | |
| NET SALES REVENUE | 828580 | 828280 | 828580 | | | | | | | |
| COST AND EXPRENCE Direct cost | | | | | | | | | · . | |
| KAU MATERIAL | 83298 | 83598 | 86558 | | | | | | - - | |
| CONSUMABLES | 23454 | 23454 | 23454 | | : | | | | | |
| រះនារ | 142919 | 142919 | 142919 | | | 1. | | | | |
| ELECTRIC PONER | 133096 | 133056 | 133096 | | | | | | | |
| PEPAIR EXPENSES | 16376 | 16376 | 16376 | | | .' | | | · | |
| RAGS | 100609 | 100609 | 100609 | | | | | | | |
| TOTAL OF DIRECT COST | 500052 | 500052 | 500052 | | | | | | • | |
| FIXED COST Salaries and Wages | 9761 | 9761 | 9761 | | | | | | | • |
| ADH IN ISTRATIVE-EXPENSES | | 8280 | 8280 | | | | A | | | : |
| MISCELLANEOUS EXPENSES | 0 | 0 | 0 | | | • | | | | |
| DEPRECIATION | 115010 | 115010 | 115010 | | | | | | | |
| AMDRTIZATIONAMDRTIZA | 0 | 0 | 0 | | | | | | | |
| TOTAL OF FIXED COST | 133051 | 133051 | 133051 | | | | | | • | |
| ZARNINGS | 195477 | 195477 | 195477 | | | | · | | | |
| INTEREST-DNG-1-19 | -0 | 0 | 0 | | | | | | | |
| INTEREST LONG TERM (2) | • | 0 | 0 | | | | | | | |
| INTEREST SHORT TERM | 0 | 0 | • | | | | | | | |
| TOTAL | | | | | | | | | | |
| TOTAL OF PRODUCTION COST | 633103 | \$33103 | 633103 | | | | • | | • | |
| NET EARINGS REFORE TAX | 195477 | 195477 | 195477 | | | • 1 | | | | |
| I XCOXS TAXX | | 68416 | 6841.6 | | | | | | | |
| NET EARNINGS AFTER TAX | 127061 | 13061 | 127061 | | | • | | | | |
| | | | | | | | | | | |

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| | 2 | 631763 | 220658 | 47541 | -315 | ¢ | 267884 | Ö | | ۵ | -16758 | 882889 | 0 | O | • | 46114 | 41581 | o | -315 | 13721 | 0 | - 9047 | 0 | 0 | 0763F | 221944 | 836949 | 0 | 221944 | 267884 | 521776 | 888303 |
|-----------------|--------------|------------------------------|----------|--------------|--------------|------------------------------|-----------------------|----------------|------------------------|-----------------------------|----------------------------|----------------------|-----------|------------------------|--------------------------|----------------------|-----------------------------|------------------------------|----------------------------|------------------------|-------------------------|-----------------------|----------------------------|-----------|----------------------------|-------------------|------------------------|---------------|-----------------|-------------------|-------------------|-----------------------------|
| | e. | 437781 | 214349 | 47541 | -315 | • | 261575 | 0 | 0 | 0 | -15282 | 684074 | 0 | 0 | a | 42193 | 41581 | 0 | -315 | 18295 | 0 | -7250 | • | • | 52311 | 209264 | 631763 | 0 | 209264 | 261575 | 219382 | 666433 |
| | ю. | 315844 | 208039 | 47541 | 310- - | • | 255265 | 0 | 0 | Ø | -13963 | 557146 | 0 | 0 | 0 | 38272 | 41581 | 5¢843 | -315 | 22869 | ò | -5612 | 0 | 0 | 119365 | 135900 | 437781 | 0 | 135900 | 255265 | 216993 | 447051 |
| | 4 | 209127 | 204883 | 47541 | -315 | 0 | 252109 | 0 | 0 | 0 | -12669 | 448567 | Q | 0 | 0 | 32945 | 41581 | 60842 | S16- | 27443 | 1064 | -4129 | 0 | 0 | 132723 | 119386 | 315844 | 0 | 119386 | 252109 | 219164 | 230058 |
| | ო | 120914 | 198574 | 47541 | -315 | • | 245800 | Ō | 0 | 0 | -11632. | 355082 | ٥. | 0 | 0 | 36469 | 41581 | 60842 | -315 | 32017 | 14602 | -2772 | 0 | 0 | 145955 | 99845 | 209127 | o | 54845 | 245800 | 186612 | 10894 |
| | 61 | 51205. | 192264 | 47541 | -315 | ø | 239490 | ø | 0 | 0 | -10705 | 279990 | 0 | 0 | • | 19992 | 41581 | 60842 | -315 | 36591 | 21903 | -1526. | ò | • | 159076 | 60414 | 120914 | 0 | 60414 | 239490 | 219498 | -208437 |
| STATENENT (1/3) | - | 0 | 185955 | 47541 | SIE | 0 | 13181 | 0 | • : • | 0 | -9877 | 223304 | Ð | o | 0 | 13516 | 41581 | 60842 | -315 | \$1165 | 29204 | -378 | 0 | 0. | 172099 | 61082 | 51205 | 0 | 61082 | 233181 | 219665 | -427935 |
| STATEN | 7 | • | 0 | . 0 | 0 | ò | 0 | 0 | 324812 | 237633 | -3155 | 559290 | 201696 | 0 | -3155 | 0 | o | • | 0 | 40204 | 30545 | 0 | 0 | 0 | 062555 | ò | 0 | 0 | 0 | -501696 | -501696 | -647600 |
| MOTA | 04 1 | 0 | 0 | 0 | 0 | 0 | 0 | O . | 91004 | 66579 | 0 | 157583 | 145904 | 0 | 0 | • | 0 | 0 | 0 | 1364 | 10315 | Ö | 0 | 0 | 157583 | 0 | 0 | 0 | 0 | -145904 | -145904 | -145904 |
| CASH | ற் 1 | 0 | ٥ | ٥ | 0 | ۰ | 0 | Ö | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ہ ر | 0. | 0 | • • | • | 0 | 0 | ¢ | 0 | • | 0 | 0 | ٥ | 0 | 0 | 0 | ` 0 |
| | PROJECT YEAR | EARANCE AT BEGINNING OF YEAR | EAKNINGS | DEFRECIATION | ANORIIZAIION | LES INCREASE IN ACCOUNT RECU | TOTAL FROM FRODUCTION | PAID IN COULTY | LOAN BOXYOWING LERM-I) | LOAN BORROWING(LONG TERM-2) | COAN BOXROWING(SHORI TERM) | TOTAL SOURCE DE CASH | INVESTERT | PRE-OPERATION EXPENCES | WORKING CAPITAL INCREASE | INCOME TAX REPAYNENT | LOAN REPAYMENT(LONG TERN-1) | LOAN REPAYNENT (LONG TERM-2) | LOAN REPAYMENT(SHORT TERM) | (I-HERESI (FONG LERNI) | INTERPORT (LONG HERMIN) | INTEREST (SHORT TERH) | TAX FOR PROFIT DISTRIBUTED | SQUADINIQ | TUTAL APPLICATION FOR CASH | NUT CASH INCREASE | BALANCE AT END OF YEAR | SALVAGE VALUE | CASH FLOW (ROE) | CASH FLOW (ROIRT) | CASH FLOW (ROIAL) | CUMULATIVE CASH PLOW(ROIAT) |

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|------------------------------|-----------|------------|---------|--------------------------|------------|---------|---------|---------|---------|----------|
| PROJECT YEAR | H040 8 | 80772 65 E | | STATEMENT (2/3) 10 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| BARANCE AT BEGINNING OF YEAR | 836949 | 1053337 | 1280928 | 1519718 | 1807211 | 2101273 | 2401906 | 2709110 | 3019597 | 3330084 |
| EARNINGS | 226967 | 233276 | 239590 | 245579 | 251888 | 258199 | 264508 | 267663 | 267663 | 267663 |
| DEFRECIATION | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 | 47541 |
| AHORTIZATION | -315- | 516- | -320 | o ' | 0 | 0 | 0 | ٥ | 0 | ¢ |
| LES INCREASE IN ACCOUNT RECU | 0 | 0 | 0 | 0 | 0 | 0 | ¢ | 0 1 | 0 | ¢ |
| TOTAL FROM PRODUCTION | 274193 | 280502 | 286811 | 293120 | 299429 | 305740 | 312049 | 315204 | 315204 | 315204 |
| FAID IN EQUITY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | • |
| LOAN BORROWING(LONG TERM-1) | 0 | 0 | a | 0 | 0 | 0 | 0 | 0 | 0 | • |
| LOAN BORKOWING(LONG TERM-2) | 0 | 0 | 0 | 0 | 0 | • | ٥ | • | 0 | 0 |
| LOAN BORKOWING (SHORI TERM) | -18411 | -20262 | -22345 | -23855 | -26458 | -29373 | -32635 | -36424 | -40794 | -45690 |
| TOTAL SOURCE OF CASH | 1092731 | 1313577 | 1545394 | 1789983 | 2080182 | 2377640 | 2681320 | 2987890 | 3294007 | 3599598 |
| INGROUND | 0 | o | 0 | ø | ¢ | 0 | 0 | 0 | 0 | 0 |
| FRE-OPERATION EXPENCES | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WORKING CAPITAL INCREASE | • | • | 0 | 0 | 0 | 0 | • | 0 | • | 0 |
| INCOME TAX REPAYMENT | 20032 | 53956 | 57876 | 60369 | 62668 | 64968 | 67267 | 63416 | 68416 | 68416 |
| LOAN REPAYNENT(LONG TERM-1) | 41581 | 41581 | 41581 | 0 | 0 | 0 | • | • | 0 | 0 |
| LOAN REPAYMENT(LONG TERM-2) | 0 | ٥ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LOAN REPAYMENT (SHORT TERM) | -315 | -315 | -320 | ð | Ó | • | 0 | ۰ | 0 | ð |
| INTEREST (LONG TERM-1) | 9147 | 4573 | 0 | o | 0 | 0 | 0 | ٥ | • | • |
| INTEREST (LONG TERH-2) | 0 | ø | o | ۰ | 0 | ٥ | ø | • | • | 0 |
| INTEREST (SHORT IERN) | -11019 | -13190 | -15585 | -18220 | -21091 | -24266 | -27790 | -31707 | -36077 | -40973 |
| IAX FOR PROFIT DISTRIBUTED | 0 | ٥ | 0 | 0 | 0 | • | 0 | 0 | 0 | o |
| DIVIDENDS | 0 | o _ | 0 | 0 | 0 | 0 | 0 | ø | 0 | ø |
| TOTAL APPLICATION FOR CASH | 99394 | 32649 | 25676 | -18228 | 16012- | -24266 | -27790 | -31707 | -36077 | -40973 |
| NET CASH INCREASE | 234799 | 247853 | 261135 | 311348 | 320520 | 330006 | 339839 | 346911 | 351281 | 356177 |
| BALANCE AT END OF YEAR | 1053337 | 1260928 | 1519718 | 1807211 | 2101273 | 2401906 | 2709110 | 265610E | 3330084 | 3640571 |
| SALVAGE VALUE | 0 | • | 0 | 0 | ° 0 | 0 | 0 | 0 | 0 | 0 |
| CASH FLOW (ROE) | 234799 | 247853 | 261135 | 311348 | 320520 | 330006 | 339839 | 346911 | 351281 | 356177 |
| CASH FLOW (ROIBT) | 274193 | 280502 | 286811 | 293120 | 299429 | 305740 | 312049 | 315204 | 315204 | 315204 |
| CASH FLOW (ROIAT) | 224158 | 226546 | 228935 | 232751 | 192962 | 240772 | 244782 | 246788 | 246788 | 246788 |
| CUMULATIVE CASH FLOW(ROIAT) | 1112361 | 1338907 | 1567842 | 1800593 | 2037354 | 2278126 | 2522908 | 2769696 | 3016484 | 3263272 |

| | 3 | 19 | 20 | | | |
|--------------------------------|------------|-----------------------|-----------|--|--|---------------------------------------|
| BARANCE AT REGINNING OF YEAR | 3640571 | 3951058 | -4261545 | | | · |
| EARN INGS | | -267663 | 267663 | | | • |
| nepreciation | 47541 | 47541 | 14244 | | | |
| AMOKIIZATION | ø | • | 0 | | | |
| LES-INGREASE-IN-ACCOUNT-REGUM | | 0 | 0 | مريم يې مېروم يې مېلىك كې د م. بار ۱۹ مې يې د ۱۹ مې يې مېرىك كې م • • • • • • • • • • • • • • • • • • • | و در این از این | · · · · · · · · · · · · · · · · · · · |
| TOIAL EROM PRODUCTION | 315204 | 315204 | 315204 | | | |
| PAID IN GOULTY | • | 0 | ٥ | | | |
| « I-низтбилоп) вил моннон- Кон | 0 , | 0 | •••• | n e e anna ann ann ann ann ann ann an an an a | | |
| LDAN BORROWING(LONG TERM-2) | \$ | 0 | 0 | | | |
| LOAN BORROWING (SHORT TERM) | -51172 | -57313 | -64191 | | | |
| TOTAL-SOURCE-OF-GASH | | -4208949- | 4512568 | | . المالي مريقية والمريفة المستقدية المنشد مردوسة الافتراقيية إذا من ا | |
| INUESMENT | 0 | 0 | 0 | | | |
| PR2-OPERATION EXPENCES | 0 | • | 0 | | | |
| WORKING -CAPITAL-INCREASE | 0 | 0 | . 0 | | | |
| INCOME TAX REPAYNENT | 69416 | 68416 | 68416 | | | · |
| LOAN REPAYMENT(LONG TERM-1) | ð | Ö | Q | | - | |
| LOAN-REPAYNENT CLONG-TERN-2. | -0 | | | | | |
| LOAN REPAYMENT(SHORI TERM) | 0 | 0 | 0 | | | |
| (I-HEST SNOT) ISEESINI | • | • | o | | · • | |
| INTEREST | | -0 | .0. | and also a substantial second and a substantial second as a substantial second as | | · · · · · · · · · · · · · · · · · · · |
| INTEREST (SHORT TERM) | -46455 | -52596 | -59474 | | | |
| TAX FOR PROFIT DISTRIBUTED | o | Ċ | 0 | | | |
| DIVIDENDS | 0 | ····· 0 ····· - ····· | | بليني والمستعمر والمحاسبين والمحاسبين والمحافظ والمحافظ والمحافظ والمحافظ والمحافظ | موجع بالمالية من معالم المالية المالية معالم المالية ال | |
| TÜTAL APPLICATION EOR CASH | -46455 | -52596 | -59474 | | | |
| NET CASH INCREASE | 361659 | 367800 | 374678 | | | |
| BALANCE. AT END. DE. YEAR | | 4261545 | -4572032- | ייניטע עריי מערע איין איינערעער אין איינערעער איינערעער איינערעערעערעערעערעערעערעערעערעערעערעערעערע | م با من الافار با من مان الاست. و من الارب من المان الم | |
| SALVAGE VALUE | 0 | ٥ | ¢ | | | |
| CASH FLOW (202) | 361659 | 367800 | 374678 | | | |
| CASH_ELOW_(%DIBT) | | 315204 | 31:5204- | an a | ید | |
| CASH FLOW (ROIAT) | 246788 | 346788 | 246783 | | | |
| CUMULATIVE CASH FLOW(RCIAT). | 3510060 | 3756848 | 4003636 | | | |

Base Case II 40.5 X 40.5 X ר מ מ מ א א -15--YEAR-,-SALES- VOLUME- =100.0..., BREAK-EVEN-POINT=-19 YEAR , SALES VOLUME =100.0 , BREAK-EVEN POINT= , BREAK-EVEN POINT= , BREAK-EVEN POINT= SALES VOLUME =100.0 SALES VOLUME =100.0 3 YEAR O MONTH 1 IS YEAR , 19 YEAR , 0.3158 0.3547 UNDA ION : (-----BREAK-EVEN-POINT------I...ORDINARY BREAK-EVEN POINT ń 4 H 2. DCF RAIE (FIRROIRI) = • • • • 3. DCF RATE (FIRROIAT) 2.- CASH BREAK-BUEN-POINT ----- DCF RATE -----ZERO POINT DE PAYOUT 1. DCF RATE (FIRKOE ŀ • ------• ;;

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| | | | | · | | | | - | | | | | | | | | | Ba | se | Ca | se | Ϊ (| Af | ter | • R | en | 370 | atio | on) | | |
|---|---------------------------------------|--------------|-------------------------|-----------------------------|---------------|-------------|-----------|------------------|--|-------------|-----------|----------------|-----------------|-------|----------------------|----------------------------------|-------------------------|------------------------|--------------|--------------|---------------------|----------|------------------|------------------------|-----------------------|---------------------|-------|--------------------------|------------------------|---|------------------------|
| | | 7 | 733012 | 100.00 | 769662 | 0 | 69969 | 699693 | 72898 | 19177 | 111476 | 108030 | 13926 | 85566 | 411073 | 9261 | 8280 | 0 | 010511 | 515 | 133566 | 155054 | | 13721 | 0 | 242 | 13968 | 558607 | 141086 | 49380 | 91706 |
| | | ୍ଞ | 723615 | 100.00 | 759795 | • | 69072 | 690723 | 71963 | 18931 | 110047 | 106645 | 13748 | 84469 | 405803 | 9761 | 8280 | 0 | 115010 | 515 | 133566 | 151.254 | | 18295 | 0 | 605 | 18604 | 552923 | 132750 | 46462 | 86288 |
| • | · | ស | 704820 | 100.00 | 740061 | 0 | 67278 | 672783 | 70094 | 18439 | 107189 | 103875 | 13331 | 82375 | 392363 | 9261 | 6280 | 0 | 115010 | 515 | 133566 | | • | 22865 | 0 | 371 | 23240 | 552069 | 120714 | 42249 | 78465 |
| | | 4 | 686024 | 100.00 | 720325 | 0 | 65484 | 654841 | 68225 | 17947 | 104330 | IOLIOS | 13034 | 80081 | 384722 | 1926 | 8280 | o | 115010 | 515 | 133566 | 136553 | • | 27443 | 7301 | 554 | 35177 | 553465 | 101376 | 35481 | 26839 9 |
| | | Ċ | 667229 | 100.00 | 200290 | 0 | 63690 | 636900 | 66355 | 17456 | 101472 | 98335 | 12677 | 77887 | 374182 | 9261 | 8280 | 0 | 115010 | \$1\$ | 133566 | 129152 | · · | 32017 | 14602 | 494 | 8112V | 554861 | 82039 | 28713 | 2222 |
| | (1/3) | 6 | 648434 | 100-00 | 680855 | ¢. | 61895 | 618960 | 64436 | 16964 | 98614 | 95565 | 12319 | 75693 | 363641 | 9761 | 8280 | 0 | 115010 | 515 | 133566 | 121753 | • | 36591 | 21903 | 3 13 13 | 29050 | 556257 | 62703 | 21,946 | 40757 |
| | STATEMENT | м | 639036 | 100.00 | 670987 | 0 | 60998 | 603389 | 63552 | 16718 | 97184 | 94180 | 12141 | 74596 | 358371 | 9761 | 8280 | • | 115010 | 515 | 133566 | 118052 | | 41165 | 29204 | 618 | 28502 | 562924 | 47065 | 36472 | 30293 |
| | 1,055 | Ţ. | 0 | 00-00 | 0 | 0 | 0 | ٥ | 0 | 0 | 0 | 0 | • | 0 | • | 0 | 0 | 0 | 0 | 0 | • | 0 | | ø | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | r AND | N 1 | 0 | 0.00 | 0 | 0 | 0 | 0 | . 0 | 0 | 0 | ¢ | 0 | 0 | Q | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | ¢ | 0 | 0 | со | o |
| | LI 30X4 | ຕ ເ | 0 | 00.0 | 0 | 0 | .0 | 0 | 0. | 0 | 0 | ò | • | 0 | 0 | . 0 | 0 | • • | 0 | ò | o | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | · · · · · · · · · · · · · · · · · · · | PROJECT YSAR | SALES VOLUNE (TON/YEAK) | RATID OF DOWESTIC SALES (2) | SALES REVENUE | EXCISE DUTY | SALES TAX | NET SALES KEUGUE | COST AND EXPRENCE DIRECT COST RAW MATERIAL | CONSUMABLES | FUEL TRUE | ELECTRIC POWER | PEPAIR EXPENSES | | TOIAL OF DIRECT COST | FIXED COST SALARIES AND MAGES | ADMINISTRATION EXPENSES | HISCELLANEOUS EXPENSES | DEFRECIATION | AHORIIZAIION | TOTAL OF FIXED COST | EakyINGS | FINANCIAL CMARGE | INTEREST LONG TERM (1) | 1NTEREX LONG TERM (2) | HART THORS ISANTERI | TOTAL | TOTAL OF PRODUCTION COST | NET EARINGS REFORE TAX | X V V V V V V V V V V V V V V V V V V V | NET EARNINGS AFTER TAX |

Base Case I (After Renovation)

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| | PROFIT | eit and | 1055 | STATEMENT | r (2/3) | | | | | |
|--|--------|---------|--------|-----------|------------|--------|--------|--------|----------|--------|
| PRUJECT YEAR | ω | ଡ଼୕ | 10 | 11 | 12 | 13 | 14 | 10 | 16 | 17 |
| SALES VOLUNE (TOW/YEAR) | 751808 | 770603 | 780000 | 262862 | 817591 | 936386 | 855181 | 873976 | 892772 | 911567 |
| AATID DF DDHESTIC SALES (2) | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100-00 | 100.00 |
| SALES REVENUE | 789398 | 809133 | 819000 | 938735 | 858470 | 878205 | 897940 | 917674 | 937410 | 957145 |
| EXCISE DUTY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SALES TAX | 71763 | 73557 | 74159 | 76248 | 78042 | 79836 | 81630 | 83424 | 85219 | 87013 |
| NET SALES REVENUE | 717635 | 735576 | 744546 | 762487 | 780428 | 798369 | 816310 | 834250 | 852191 | 870132 |
| COST AND EXPRENCE UIRECT COST RAW MATERIAL | 74767 | 76636 | 77570 | 79440 | 81309 | 83178 | 85047 | 86916 | 88786 | 90655 |
| CUNSUMARLES | 19668 | 20160 | 20106 | 20898 | 21389 | 21881 | 22373 | 22864 | 23356 | 23848 |
| 1303 | 114335 | 117193 | 118622 | 121481 | 124339 | 127197 | 130056 | 132914 | 135773 | 138631 |
| RLECTRIC POWER | 110800 | 113570 | 114955 | 117725 | 120495 | 123265 | 126035 | 128805 | 131575 | 134345 |
| PEPAIK EXPENSES | 14284 | 14641 | 61361 | 15176 | 15533 | 15890 | 16248 | 16605 | 16962 | 17319 |
| BAGS | 87760 | 89954 | 12016 | 93245 | 95439 | 97633 | 99827 | 102021 | 104215 | 106409 |
| TUTAL OF DIRECT COST | 421614 | 432154 | 437423 | 447965 | 458504 | 469044 | 479586 | 490125 | 500667 | 511207 |
| FIXED COST Salakies and wages | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9261 |
| ADMINISTRATIVE EXPENSES | 8280 | 8280 | 8280 | 8280 | 8280 | 8280 | 8280 | 0828 | 8280 | 8280 |
| HISCELLANEDUS EXPENSES | 0 | ø | Ø | 0 | ۰ <u>.</u> | a | 0 | • | 0 | o |
| UEPRECIATION | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 010511 |
| AMORTIZATION | 515 | 215 | 513 | 0 | ۰. | • | 0 | 0 | 0 | • |
| TOTAL OF EIXED COST | 133566 | 133566 | 133570 | 130221 | 133051 | 133051 | 133051 | 133051 | 130551 | 130551 |
| SORINAS | 162455 | 169856 | 173553 | 181471 | 188873 | 196274 | 203673 | 211074 | 218473 | 225874 |
| FINANCIAL CHARGE | | | | | | | | • | | |
| INTEREST LONG TERM (1) | 9147 | 4573 | 0 | o | 0 | 0 | • | • | ۰. | 0 |
| INTEREST LONG TERN (2) | • | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FARK INCHS ISRAINI | 185 | 124 | 62 | • | 0 | • | • | • | o | 0 |
| HOHAY Y | 9332 | 4697 | 62 | o | 0 | 0 | o | • | 0 | 0 |
| TOTAL OF PRODUCTION COST | 564512 | 570417 | 221025 | 281016 | 291555 | 602095 | 612637 | 623176 | 633718 | 644258 |
| ART RARINGG REFORE TAX | 153123 | 165159 | 173491 | 181471 | 166673 | 196274 | 203673 | 211074 | 218473 | 225874 |
| INCOME TAX | 26585 | 57805 | \$0721 | 63514 | 66105 | 68695 | 21285 | 73875 | 76465 | 23052 |
| NET EANNINGS AFTER TAX | 99530 | 107354 | 112776 | 117957 | 122768 | 127579 | 132368 | 137199 | 142008 | 146819 |

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|------------|------------------|-------------|-------------|--|-------|--------------|------|----------------|--------------|--------------|-------------|---------------|---------------|-----------|---------------------------------------|----|--------|---|---------------|---------------|---|-----|-----|--|--------------|-------------|--|----------|
| | • | | | • | | | | | | - | | | | | | | | | м - А | | | | | | | | | |
| • | | | | | | | | | | | | | | | · · · · · · · · · · · · · · · · · · · | | | | | | inge waardaan 1 da da da ah | | · | the state of the second s | · | | | |
| | | | | | · | | | 1. | | | | | | · | | • | - | ng lift and | | | | | | | | | | |
| | | | | | | | • | | | | | | | | | | | | | | | | | | | | and a second | |
| T (3/3) | ! | | | | | | | | | | | | | | | • | | | | | | | | Ber meine an meine an a fe it stellt | | | | |
| STATEMENT | | | | | • | | 1 · | | • | | | | | | | | | 1 | | • | | | | | | | | |
| 1055 | 20 939760 | 100.00 | 986748 | 0 | 89704 | 897044 | | 33459 24586 | 616271 | 138500 | 17855 | 002601 | 527019 | 9761 | 6280 | • | 115010 | | 133051 | 236974 | 0 | ò | çı | 0 | 660070 | 236974 | 82940 | 154034 |
| AND | , 939760 2 | 00 | 8 | 0 | 4 | æ | | | | ~ | | | | | | | | | | | | | | | 0 | 74 | 82940 | 154034 |
| ΕIT | 1 68.6° | 100.00 | 986748 | 0 | 83704 | 697044 | | 24586 | 142919 | 138500 | 17855 | 109700 | 527019 | 19761 | 8260 | • | 010211 | 0 | 133051 | 236974 | 0 | 0 | • | 0 | 660070 | 236974 | 8 | Т |
| P & OF I T | 18 930362 939 | 100.00 100. | 976880 9867 | ······································ | | 688073 89704 | | 34340 24586 | 141489 14291 | 137115 13850 | 17676 17855 | 106603 109700 | 531747 527019 | 9761 9761 | 8260 8260 | 0 | 0 | 0 0 | 130551 130551 | 233275 236974 | 0 | 0 | | 0 | 654798 66007 | 233275 2369 | 81646 82 | 151629 1 |

| PROJECT YEAR | L3 CASH | 2- ETOM | STATEMENT -1 | 1ENT (1/3) I | (1 | ť | 4 | ເມ | ა | 4 |
|---|---------|---------|-----------------|-----------------|---------|--------|--------|--------|------------|--------|
| BARANCE AT BEGINNING OF YEAR | 0 | 0 | 0 | 0 | 59652 | 134942 | 229568 | 343531 | 476832 | 110589 |
| S D N N N D S D N N N N N N N N N N N N | 0 | 0 | 0 | 118052 | 121753 | 129152 | 136553 | 143954 | 151354 | 155054 |
| DEFRECIATION | ٥ | 0 | ¢ | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 |
| AMORIIZAIION | | | 00 | | 515 | 515 | 515 | 515 | 515 | 515 |
| LES INCREASE IN ACCOUNT RECU | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ٥ | 0 | 0 |
| TOTAL FROM PRODUCTION | 0 | 0 | 0 | 233577 | 237278 | 244677 | 252078 | 259479 | 266879 | 270579 |
| FAID, AM. EQUITY. | 0 | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| LOAN BORROWING (LONG TERH-1) | • | 10016 | 324012 | 0 | 0 | 0 | ¢ | 0 | 0 | 0 |
| LUAN BORROWING(LUNG TERM-2) | ٥ | 66579 | 237633 | 0 | 0 | 0 | ٥ | 0 | 0 | 0 |
| LOAN ROWING (SHORT TERM) | 0 | 0 | 5154 | | 0 | | 0 | 0 | 0 | 0 |
| TUTAL SOURCE OF CASH | • | 157583 | 567599 | 233577 | 296930 | 379619 | 481646 | 603010 | 743711 | 063836 |
| INCROTIN | 0 | 145904 | 501696 | ٥ | • | 0 | ۰ | 0 | 0 | o |
| FRE-OPERATION EXPENCES | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | • |
| WORKING CAPITAL INCREASE | 0 | • - | 5154 | 0 | 0 | ۰ | 0 | • | Q | 0 |
| INCOME TAX REPAYMENT | 0 | • | 0 | 16472 | 21946 | 28713 | 35481 | 42249 | 46462 | 49380 |
| LOAN REPAYNENT (LONG TERH-1) | 0 | 0 | - 0 | 41581 | 41581 | 41581 | 41531 | 41581 | 41581 | 41531 |
| LOAN REPAYMENT(LONG TERM-2) | o | 0 | 0 | 60842 | 60842 | 60842 | 60842 | 60842 | • | 0 |
| LOAN REPAYMENT(SHORT TERM) | 0 | • | 0 | 515 | 515 | 515 | 515 | 515 | 515 | 515 |
| INTEREST (LONG. TERGLL | 0 | 1364 | 40204 | | | | 27443 | 22869 | 18295 | 13721 |
| INTEREST (LONG TERM-2) | • | 10315 | 20545 | 29204 | 21903 | 14602 | 1301 | 0 | o | • |
| INTEREST (SHORT TERM) | 0 | • | 0 | 618 | 556 | 494 | 433 | 371 | 309 | 247 |
| TAX FOR PROFIT DISTRIBUTED | 0 | 0 | 0 | ہ | 0 | 0 | 0 | ° | 0 | 0 |
| DIVIDENDS | ۰ | 0 | ð. | 0 | 0 | 0 | • | o | ٥ | ¢ |
| TOTAL APPLICATION FOR CASH | • | 157583 | 567599 | 173925 | 161988 | 120021 | 138115 | 126178 | 60700 | 56064 |
| NET CASH INCREASE | 0 | 0 | 0 | 59652 | 25290 | 94626 | 113963 | 133301 | 206179 | 214515 |
| BALANCE AT END OF YEAR | • | 0 | ° | 59653 | 134942 | 229568 | 343531 | 476832 | 110583 | 897526 |
| SALVAGE VALUE | 0 | 0 | 0 | ð | 0 | 0 | 0 | • | o . | ¢ |
| CASH ELOW (ROE) | 0 | 0 | 0 | 59652 | 75290 | 94626 | 113963 | 133301 | 206129 | 214515 |
| CASH FLOW (ROIBT) | 0 | -145904 | -501696 | 233577 | 237278 | 244677 | 252078 | 259479 | 266879 | 270579 |
| CASH FLOW (ROIAT) | 0 | -145904 | -501496 | 217105 | 215332 | 215964 | 216597 | 217230 | 220417 | 221199 |
| CUMULATIVE CASH FLOW(RDIAT) | 0 | -145904 | -647600 | -420495 | -315163 | 108 | 217398 | 434628 | 655045 | 876244 |

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| 173533 181471 188673 196274 115010 115010 115010 115010 \$19 9 9 9 \$19 9 9 9 \$289082 296481 303683 311384 \$289082 296481 303683 311384 \$289082 296481 303683 311384 \$0 0 0 0 \$0 0 0 0 | 115010 115010 115010 235381 235381 235381 0 0 0 0 0 0 0 57805 57805 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | |
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| 115010 115010 296481 296481 | | 115010 115010 285381 285381 0 0 0 1109459 0 1109459 0 0 57805 41581 0 0 57805 57805 57805 57805 57805 |
| 296481 296481 | | |
| 2966 2966 296 | 165 | 31 |
| 296481 | 20 21 | 7 |
| 0 0 0 | 16 | |
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| 0 0 | <u>ـ</u> | |
| 1651748 1906067 2209950 2521234 | | 0 6 57805 41581 41581 515 515 |
| 0 0 | | 0 57805 A1581 A1581 S15 |
| 0 | | 0 57805 41581 0 515 |
| 0 0 | | 57805 11581 515 |
| 60/21 63%14 66105 | | A1581 0 515 |
| A1581. 0 0 | | 51 E |
| 0 | | 515 |
| 519 Q Q | | |
| 0 0 | | 4573 |
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| 62 0 0 | | 124 |
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| 0 | | • |
| 42162 0 0 | | 46793 |
| 246920 296481 303883 | | 238588 |
| 1609586 1906067 2209950 | 16 | 1362666 16 |
| 0 0 | | ø |
| 246920 296481 303683 | | 238588 |
| 289082 296481 303883 | ·. | 385381 |
| 226361 232967 237778 | | 227576 |
| 1554568 1789535 2027313 | - | 1328207 15 |

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| a ≊≊ | 3840368 | 4188653 | 1) 1 | 40637 |
|------------------------------|---------|---------|---------|--|
| EARNINGS | 233275 | 236974 | 236974 | م و تروید و سر مسروفین (در از معنوان می در این در این در این در این می واقد در این در میشوند. در این در مسروفی ا |
| VEPRECIATION | 115010 | 115010 | 010511 | |
| NULTIZATIONA | ¢ | ۰ | 0 | |
| LES INCREASE IN ACCOUNT RECV | • | 0 | 0 | an a sharan a sharan an an an angan an an angan angan angan a sanan a sa angan sa angan sa na nanan angan sa a |
| TOTAL FROM PRODUCTION | 348285 | 351984 | 351984 | |
| PAID IN EQUITY | 0 | 4 | 0 | |
| LOAN BORROWINGCLONG TERM-IN | 0 | Q | | |
| LDAN BORROWING(LONG TERM-2) | 0 | 0 | ¢ | |
| LOAN BORROWING (SHORT TERH) | • | 0 | o | |
| TOTAL SOURCE DE CASH | 4186653 | 4540637 | 4892621 | |
| INSENT | ٥ | 0 | 0 | |
| PRE-OPERATION EXPENCES | 0 | 0 | 0 | |
| WORKING CAPITAL INCREASE | ð | 0 | 0 | and a second definition of the second s |
| INCORE TAX REPAYMENT | 81646 | 82940 | 82940 | |
| LDAN REPAYMENT(LDNG TERM-1) | ٥ | ¢ | 0 | |
| LOAN REPAYNENT (LONG TERM-2) | 0 | 0 | 0 | a na ann ann ann ann ann ann ann ann an |
| LOAN REPAYMENT(SHORT TERN) | 0 | 0 | 0 | |
| INTEREST (LONG TERM-1) | 0 | 0 | 0 | : |
| INTEREST (LONG TERM-2) | 0 | | 0 | and a second |
| INTEREST (SHORT TERM) | \$ | 0 | ¢ | |
| TAX FOR PROFIT DISTRIBUTED | 0 | 0 | 0 | |
| DIVIDENDS | 0 | 0 | 0 | ran - a an an anna chuann a' ann anna ann anna anna anna a' ar an ann anna a' ar an ann a' anna anna |
| TUTAL APPLICATION FOR CASH | 0 | 0 | Q | |
| MET CASH INCREASE | 348385 | 351984 | 351984 | |
| AALANCE AT END DE YEAR | 4108653 | 4540637 | 4892621 | an an an ann an ann an anns an anns an anns an anns an anns an anns anns an anns anns anns anns anns anns an an |
| SALVAGE VALUE | 0 | 0 | Ö | |
| CASM ELOW (ROE) | 348285 | 1351984 | 351984 | |
| CASH FLOW ROIBTS | 348282 | 351984 | 351584 | na dhe an she a na na na mananing marannan a mananing na sao anna a sao an an an an an an anna mananna |
| CASH FLOW (ROIAT) | 266639 | 269044 | 269044 | |
| CUMULATIVE CASH FLOW(ROIAT) | 3524995 | 3824039 | 4093083 | |

| | ¢ ŭ | BALANCE | (E/T) I33HS | ŝ | | | | | | |
|--|----------|----------|-------------|---------|---------|---------|---------|---------|------------|---------|
| 2487 HURDORA 0443000 | 1 | 53 1 | -1 | 4 | N | ო | 4 | ŝ | 9 | 7 |
| CURRENT ASSETS CURRENT ASSETS CASH IN HAND | 0 | • | 0 | 59652 | 134942 | 229568 | 343531 | 476832 | 683011 | 897526 |
| ACCOUNTS RECEIVABLE | ٥ | Ó | o | Ö | 0 | 0 | 0 | 0 | 0 | ٥ |
| INVENTORY RAM MATERIAL | | 0 | 035 | 120 | 935 | 555 | 220 | 935 | 225 225 | 935 |
| SS32014-NI-XAOM | • • | i . O | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 |
| FINISHED GOODS | 0 | ٥ | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 |
| STORES AND SPARES | 0 | 0 | | 1159 | 1159 | 1159 | 1159 | 1159 | 1159 | 1159 |
| LESS: AMONTIZATION | o | 0 | 0 | -515- | -1030 | -1545 | -2060 | -2575 | 0608- | -3605 |
| TOTAL OF CURRENT ASSETS | o | 0 | 5154 | 61291 | 139066 | 233177 | 346625 | 1149411 | 685075 | 899075 |
| FIXED ASSETS | | 400'a4 t | 009699 | 647600 | 247600 | 647600 | 447600 | 647600 | 647600 | 647600 |
| PRE-OFERATION EXPENSES | · • | | 0 | | 0 | 0 | 0 | \$ | 0 | |
| TOTAL | | 145904 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 |
| DEFERRED ASSETS | 0 | 11679 | 73428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 |
| LESS: DEPRECIATION | • 0 | 0 | ⊘ . | -115010 | -230020 | -345030 | -460040 | -575050 | -690060 | -805070 |
| TUTAL OF FIXED ASSETS | 0 | 157583 | 720028 | 602018 | 490008 | 374998 | 259988 | 144978 | 29968 | 0 |
| TOTAL ASSETS | ø | 157583 | 725182 | 669309 | 629074 | 608175 | 606613 | 634389 | 540S17 | 57068 |
| LIABILITIES AND EQUITY | : | | | | - | | | | | • |
| CURRENT LIABILITIES Account Payable | 0 | 0 | 0 | 0 | o | 0 | 0 | Ŷ | o | ¢ |
| SHORT TERM LOAN | 0 | ٥ | 5154 | 4639 | 4124 | 3609 | . 3094 | 2579 | 2064 | 1549 |
| TOTOL | 0 | 0 | - 5154 | 4639 | 4124 | 3609 | 3094 | 3529. | 2064 | 1549 |
| TONS TERM LOAN(I) | 0 | 91004 | 415816 | 374235 | 332654 | 291073 | 249492 | 207911 | 166330 | 124749 |
| LONG TERM LOAN(2) | 0 | 66379 | 304212 | 243370 | 182528 | 121686 | 60844 | C1 | CI | (1 |
| EQUITY CAFITAL | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | • | 0 |
| RETAINED SARNINGS | ٥ | 0 | • • | 47065 | 109768 | 191807 | 293183 | 413897 | 546647 | 772775 |
| TOTAL | 0 | ¢ | 0 | 47065 | 109768 | 191807 | 293183 | 413897 | 546647 | 772775 |
| TOTAL OF MIABILITIES | 0 | 157583 | 725182 | 602639 | 629074 | 608175 | 606613 | 624389 | 715043 | 899075 |
| AND SQUITY | | | | | | | | | | |

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| | £iA | BALANCE | (5/2) 133HS | (E) | | | | | | |
|--|---------|---------|-------------|---------|---------|---------|---------|---------|----------|------------|
| PROJECT YEAR Askers | 8 | 6 | 10 | 11 | 12 | 13 | 14 | ទា | 16 | 17 |
| CURRENT ASSETS CASH IN HAND | 1124078 | 1362666 | 1609586 | 1906067 | 2209950 | 2521234 | 2839917 | 3166001 | 3499484 | 3840368 |
| ACCOUNTS RECEIVABLE | 0 | o | 0 | 0 | ٥ | ò | 0 | 0 | ٥ | 0 |
| INUENTORY | | | | | | | | | • | . • |
| RAW MATERIAL | 935 | 326 | 935 | 306 | 586 | 935 | 335 | 386 | 935 | 935 |
| UXX-IN-PROCESS | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 |
| EINISHED GOODS | 1530 | 1530 | 0631 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 | 1530 |
| STORES AND SPARES | 1159 | 1159 | 1159 | 1159 | 1159 | 1159 | 1159 | 53TT | 1159 | 1159 |
| LESS: ANGRIIZATION | -4120 | -4635 | -5154 | -5154 | -5154 | -5154 | -5154 | -5154 | -2124 | -5154 |
| TOTAL OF CURRENT ASSETS | 1125112 | 1363185 | 1609586 | 1906067 | 2209950 | 2521234 | 2639917 | 3166001 | 3499484 | 3840368 |
| FIXED ASSETS INVESTMENT | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 |
| PRE-OPERATION EXPENSES | Ö | 0 | ¢ | 0 | 0 | 0 | 0 | 0 | 0 | ٥ |
| TOTAL | 647600 | 647600 | 617600 | 642600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 |
| DEFERRED ASSETS | 72426 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 |
| LESS: DEPRECIATION | -805070 | -805070 | -805070 | -805070 | -805070 | -805070 | -805070 | -805070 | -805070 | -805070 |
| TUTAL OF FIXED ASSETS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL ASSETS | 1125112 | 1363185 | 1609586 | 1906067 | 2209950 | 2521234 | 2839917 | 3166001 | 3499484 | 3840368 |
| LIABILITIES AND COULTY | | | | | | | | - | t | |
| CURRENT LIAHILITIES Account Payable | ٥. | 0 | o | 0 | 0 | ¢ | ¢ | ٥ | 0 | 0 |
| SHORT TERM LOAN | 1034 | 519 | • | Ø | 0 | 0 | ¢ | ø | 0 | Q |
| TOTAL | VEOT | 519 | 0 | 0 | 0 | 0 | 0 | | | o . |
| LONS TERM LOAN(1) | 83168 | 41587 | و | 5 | 9 | S | c) | C | S | Ģ |
| LONG TERM LOAN(2) | €3 | 64 | L3 | 61 | ы | 61 | ы | 2 | 17 | C1 |
| FRUITY | | | | | | | | | | |
| PAIN RAPITAL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | • | • |
| RETAINED EARNINGS | 1040908 | 1321077 | 1609578 | 1906059 | 2209942 | 2521226 | 2839909 | 3165993 | 3499476 | 3840360 |
| TOIAL | 1040908 | 1321077 | 1609578 | 1906055 | 2209942 | 2521226 | 2839909 | 3165993 | 3499476 | 3840360 |
| TOTAL OF LIABILITIES | 1125112 | 1363185 | 1609586 | 1906067 | 2209950 | 2521234 | 2839917 | 3166001 | 3499434 | 3840368 |
| AND EQUITY | | | | | | | | | | |

| SHEET (3/3) | 20 | 4332621 | | 506 | 1530 | 1530 | <u>1</u> 159 | -51154 | 4892621 | 647600 | 0 | 647600 | 72428 | -805070 | | 4892621 | | 0 | | ť | C3 | 0 | 4892612 | 4892613 |
|----------------|----|---------|---------------------|-----|------|------|-------------------|--------------------|-------------------------|--------|------------------------|--------|-----------------|--------------------|-----------------------|---------|--|-----------------|----|-------------------|-------------------|---------------------------|-------------------|---------|
| BALANCE | 19 | 4540637 | 0 | 335 | 1530 | 1530 | 1159 | -5164 | 4540637 | 647600 | 0 | 647600 | 72428 | -805070 | 0 | 4540637 | 0 | 0 | -0 | ę | сч | 0 | 1540629 | 4540629 |
| ¥А. | 8 | 4189653 | 0 | 935 | 1530 | 1530 | 1,159 | -515- | 4188653 | 647600 | 0 | 647600 | 72428 | -805070 | 0 | 4189653 | 0 | o | 0 | .9 | 64 | 0 | 4188645 | 4188645 |
| | | - | ACCOUNTS RECEIVABLE | | | | STORES AND SPARES | LESS: AMDRTIZATION | TOTAL OF CURRENT ASSETS | | PRE-OPERATION EXPENSES | | DEFERRED ASSETS | LESS: DEPRECIATION | TOTAL OF FIXED ASSETS | | LIABILITIES AND EQUITY CURRENT LIABILITIES ACCOUNT PAYABLE | SHORT TERN LOAN | | LONG TERM LOAN(1) | LONG TERM LOAN(2) | EGUITY PAID IN CAPITAL | RETAINED EARNINGS | · |

| | | | ······································ | | | | | | Base | | ase | I | (Af | ter | Re | nova | tion |) | · |
|----------|-----------------------------|--------------------------|--|---|------------------|---|-----|--------------------------|------|--|-----|--------|--------------------------|-----|----|------|------|----------|---|
| | | • | | | | 36.0 X 36.0 X | | 4 9 4 7 9 7 | | | • | | | | | | | k | |
| | ; NOT FOUND | 0.3557 | 0.3133 | | | 19 YEAR , SALES VOLUME =100.0 , BREAK-EVEN POINT= 19 YEAR, , SALES VOLUME =100.0 , BREAK-EVEN POINT= | | LES VO | | | | | 3 YEAR O MONIH | | | | | · · | |
| DCF RATE | l. DCF RATE (EIRROE) ; NOT | 3. DCF RAIE (FIRROIBI) = | | • | BREAK-EVEN POINT | I. ORDINARY BREAK-EVEN POINT | - 1 | 2. CASH &REAK-EVEN POINT | | and a second | | PAYOUT | ZERO POINT OF PAYOUT = 3 | | | | | · · | |

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| | PROFIT | AND | SSOT | STATENENT | (1/3) | | | · | | | |
|---|-------------|--------------------------|-------|-----------|--------|----------|--------|---------|------------|--------|--|
| FROJECT YEAR | က ၂ | C1 1 | 1- | ~ | ~ | ሮነ | 4 | געי | S | | |
| SALESVOLUNE(-TON/-YEAR-) | ····· 0···· | | -0 | 637791 | 655028 | - 672266 | 689504 | 698122 | | 732598 | |
| KATIO OF DOMESTIC SALES (2) | 0.00 | 0.00 | 00-00 | 100.00 | 100-00 | 100.00 | 100.00 | 100.00 | 100-00 | 100.00 | |
| SALES REVENUE | ¢ | • | ۰ | 674464 | 692692 | 710921 | 729150 | 738264 | 756493 | 774722 | |
| | 0 | 0 ··· | -0 | 0 | 0 | •••• •• | 0 | 0 | . O | 0 | |
| SALES TAX | 0 | 0 | 0 | 61314 | 62972 | 64629 | 66286 | 67114 | 68772 | 70429 | |
| NET SALES REVENUE | ø | ٥ | ø | 613150 | 629720 | 646292 | 662864 | 671150 | 687721 | 704293 | |
| COST AND -EXPRENCE Direct Cost Raw Material | 0 | | • | 61862 | 63534 | 65206 | 66878 | 67714 | 69386 | 85012, | |
| CONSUMABLES | o | 0 | • • | 17355 | 17825 | 18294 | 18763 | 18997 | 19466 | 19935 | |
| EUEL | | 0 | | | | 111476 | | 115764- | -118622 | 121481 | |
| ELECTRIC POUER | ٥ | o | ٥ | 98491 | 101152 | 103814 | 106476 | 107807 | 110469 | ISISI | |
| PEPAIK EXPENSES | ٥ | ò | . 0 | 12118 | 12445 | 12773 | 13100 | 13264 | 13592 | 13919 | |
| 54GS | 0 | • | | | 76462 | | | | 83505 | 85517 | |
| TOTAL OF DIRECT COST | 0 | o | 0 | 370036 | 380036 | 390038 | 400039 | 402039 | 415040 | 425041 | |
| EIXED COST Salaries and Wages | 0 | ¢ | ¢ | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | 9761 | |
| ADMINISTRATIVE EXPENSES | 0 | 0 | • | 8280 | 8280 | 8280 | 8260 | 8280 | 8280 | 8280 | |
| HISCELLANEOUS EXPENSES | 0 | 0 | 0 | o | 0 | 0 | 0 | 0 | 0 | 0 | |
| DEFRECIATION | 0 | .0 | 0 | 115010 | 115010 | 115010 | 115010 | 010511 | 115010 | 115010 | |
| AMORIIZATION | 0 | 0 | 0 | 489 | 489 | 489 | 684 | 489 | 489 | 489 | |
| TOTAL OF FIXED COST | 0 | ¢ | ø | 133540 | 133540 | 133540 | 133540 | 133540 | 133540 | 133540 | |
| EARNINGS | 0 | o | 0 | 109574 | 116144 | 123714 | 129285 | 132571 | 139141 | 145712 | |
| FINANCIAL CHARSE | | | | | | - | | | - | | |
| INTEREST LONG TERM (1) | 0 | o | 0 | 41165 | 36591 | 32017 | 27443 | 22869 | 18295 | 13721 | |
| INTEREST LONG TERM (2) | 0 | o | 0 | 29204 | 21903 | 14602 | 1082 | 0 | 0 | o | |
| TANK HOUSE HOUSE | 0 | 0 | 0 | 282 | 528 | 469 | 411 | 352 | 293 | 234 | |
| TOTAL | ø | 0 | o | 70956 | 59023 | 47088 | 32122 | 23221 | 18588 | 12955 | |
| TOTAL OF PRODUCTION COST | 0 | 0 | 0 | 574532 | 572598 | 570666 | 568734 | 561800 | 567168 | 572536 | |
| NET EARINGS BRFORE TAX | 0 | 0 | 0 | 38618 | 57122 | 75626 | 94130 | 109350 | 120553 | 131757 | |
| XAD NO HAX | 0 | 0 | 0 | 13516 | 19992 | 36469 | 32945 | 38272 | 42193 | 46114 | |
| NET BARNINGS AFIER TAX | ٥ | . 0 | 0 | 20132 | 37130 | 49157 | 61185 | 71078 | 78360 | 82613 | |

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| | PROFIT | IT AND | SSOT | STATEMENT | (2/3) | | | · | | |
|--|-----------|---------|--------------|-----------|--------|--------|--------|---------|----------|------------------|
| PRUJECT YEAR | 8 | 6 | . 1 C | 11 | 12 | 5 | 14 | 51 | 16 | 17 |
| SALES_UOLUNE_(ION/XEAR) | 749835 | | | | 818786 | | | | . 861880 | 861880 |
| KATIO OF DOMESTIC SALES (X) | 100.00 | 100.001 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.001 | 100.00 | 100.00 |
| SALES REVENUE | 792950 | 811179 | 829407 | 847637 | 365366 | 884094 | 902323 | 911438 | 911438 | 911438 |
| | 0 | 0 | | | | -0 | | 0 | . 0 | 0 |
| SALES TAX | 72086 | 73743 | 75400 | 77057 | 78715 | 80372 | 82029 | 82828 | 82358 | 82858 |
| NET SALES REVENUE | 720864 | 737436 | -754007 | 770580 | 787151 | 803722 | 820294 | 828580 | 828580 | 828580 |
| COST_AND_EXPRENCE UIRECT COST Xaw MATERIAL | 72730 | 74402 | 76074 | 77746 | 79418 | 81090 | 82762 | 83598 | 83598 | 83298 |
| CONSUMABLES | 20404 | 20874 | 21343 | 21812 | 22281 | 22750 | 23219 | 23454 | 23454 | 23454 |
| | -124339 | 127.197 | | | | 138631 | | | -142919 | 6162 \$ 1 |
| SLRCTRIC .FOWER | 115793 | 118455 | 411121 - | 123779 | 126441 | 129103 | 131765 | 133096 | 133096 | 133096 |
| PEFAIK EXPENSES | 14247 | 14574 | 14902 | 15229 | 15557 | 15884 | 16212 | 16376 | 16376 | 16376 |
| BAGS | 87529 | 89542 | | | 92239 | | 99602 | | -100609 | 100609 |
| TOTAL OF DIRECT COST | 435042 | 445044 | 455046 | 465046 | 475048 | 485048 | 495049 | 500052 | 500052 | 500052 |
| FIXED COST Salaries and wages | , 9761 | 1976 | 9761 | 9761 | 9761 | 9761 | 9761 | 19761 | 9761 | 1976 |
| ADMINISTRATIVE EXPENSES | 8280 | 8280 | 8280 | 8280 | 8280 | 8280 | 8280 | 8280 | 8280 | 8280 |
| HISCELLANEOUS EXPENSES | ø | 0 | 0 | 0 | 0 | 0 | • | 0 | 0 | 0 |
| DEPRECIATION | 115010 | 115010 | 010511 | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 |
| AHDKTIZATION | 489 | 489 | 164 | 0 | • | 0 | \$ | 0 | • | 0 |
| TOTAL OF FIXED COST | 133540 | 133540 | 133542 | 130221 | 133051 | 130221 | 130881 | 133651 | 139651 | 130551 |
| S BAN INGS | 152282 | 158852 | 165419 | 172483 | 179052 | 185623 | 192194 | 195477 | 195477 | 195477 |
| FINANCIAL CHARGE | | | | | - | | | | | |
| (L) HER LOHO ISSUENT | 2147 | E424 | 0 | 0 | 0 | 0 | 0 | • • | Ó | • |
| (2) HERE DANG ISEREN | 0 | 0 | 0 | O. | 0 | 0 | 0 | Ó | 0 | • |
| INTEREST SHORT TERM | 176 | 117 | មា ក្រ | \$ | ¢ | • | 0 | 0 | Ċ, | ¢ |
| TOIAL | 9323 | 4690 | 85 | 0 | 0 | 0 | 0 | 0 | Q | • |
| TOTAL OF PRODUCTION COST | 577905 | 583274 | 58646 | 598092 | 608099 | 618099 | 628100 | 633103 | 633103 | 601889 |
| NET EARINGS BEFORE TAX | 142959 | 154162 | 165361 | 172483 | 179052 | 185623 | 192194 | 195477 | 195477 | 195477 |
| INCOME IAX | 50035 | 53956 | 57876 | 60369 | 62668 | 64968 | 67267 | 68416 | 68416 | 68416 |
| NET BARNINGS AFTER TAX | 92924 | 100206 | 107485 | 113114 | 116384 | 120655 | 124927 | 127061 | 130/21 | 127061 |

| | PROFIT | EIT AND | 1.055 | STATEMENT | (3/3) | | | | | • | |
|---|--------------|--------------|--------------|-----------|-------|-----|----|---|------|---|---|
| PRQIECT YEAR Sales Volune (Ion/Year) | 18 861880 | 19 861880 | 20 861880 | | | | | | | | |
| RATIO DE POMESTIC SALES (2) | 100.00 | 100.00 | 100.00 | | | | | ł | - | | |
| SALES REVENUE | 911438 | 911438 | 911438 | | | | | | | | |
| EXCISE DUTY | 0 | ò | 0 | | | | | | · | | |
| SALES TAX | 82858 | 82858 | 02858 | | | | | | • . | | |
| NET SALES REVENUE | 823580 | 828580 | 828280 | | ÷ | | | | | | |
| COST AND EXPRENCE | | | | | | | | | | | |
| RAU HATERIAL | 83298 | 83238 | 83598 | | | | | | | | |
| SELEVENCE | 23454 | 23454 | 23454 | | | | | | | | |
| ารกร | 142919 | 142919 | 142919 | | | | | | | | |
| ELECTRIC POWER | 133096 | 133096 | 133096 | | | | | | | • | |
| PEPAIK EXPENSES | 16376 | 16376 | 16376 | | | | | | | | |
| BAGS | 100609 | 100609 | 100609 | | | | · | | | | |
| TOTAL OF DIRECT COST | 500052 | 500052 | 500052 | | | | | | | | |
| FIXED COST Salaries and wages | 9761 | 9761 | 19761 | | ÷ | | - | | | | |
| ADMINISTRATIVE-EXPENSES | 8280 | | 8280 | | | | | | | | |
| MISCELLANEOUS EXPENSES | 0 | 0 | 0 | | | | | | | | |
| DEPRECIATION | 115010 | 115010 | 115010 | · | | | | | | | |
| | -0 | | | | | | | | | • | |
| IOTAL OF FIXED COST | 130551 | 133051 | 13051 | | | | | | | | |
| SONINGS | 195477 | 195477 | 195477 | | | | • | | | | 2 |
| CTTREKESTTONG TEKNTTT | -0 | | 0 | | | | | | **** | | |
| INTEREST LONG TERM (2) | o | 0 | 0 | | | | | | | | |
| HART THORN ISRATINI | 0 | 0 | 0 | | | . • | | | | | |
| | | | | | | | | | | | |
| TOTAL OF PRODUCTION COST | 633103 | 633103 | 633103 | | | | · | | | | |
| XET EARINGS BEFORE TAX | 195477 | 195477 | 195477 | | | | · | | | | |
| INCOMEIAX | | 68416 | 68416 | | | | | | - | • | |
| NET EARNINGS AFTER TAX | 127061 | 127061 | 127061 | | | | •. | | | | |
| | | · | | | | | | | | | |

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| Project Year | L CASH | 4 FLOW | | STATEMENT (1/3) -1. 1 | 0 | rı | 4 | ŝ | ى | د |
|------------------------------|---------------|---------|---------|--------------------------|---------|----------|--------|--------|--------|--------|
| BARANCE AT BEGINNING OF YEAR | ٥ | 0 | ¢ | • | 51205 | 120914 | 209127 | 315844 | 437781 | 631763 |
| EARNINGS | 0 | 0 | Ø | 109574 | 116144 | 122714 | 129285 | 132571 | 139141 | 145712 |
| DEPRECIATION | ۰ | 0 | ٥ | 010511 | 115010 | 115010 | 010511 | 115010 | 115010 | 115010 |
| AMORTIZATION | 0 | o | 0 | 489 | 489 | 489 | 489 | 489 | 485 | 489 |
| LES INCREASE IN ACCOUNT RECV | 0 | • | 0 | 0 | 0 | 0 | 0 | 0 | • | 0 |
| TOTAL FROM PRODUCTION | ۰ | 0 | • | 225073 | 231643 | 238213 | 244784 | 248070 | 254640 | 261211 |
| PAID IN EQUITY | • | 0 | ø | 0 | ò | • | 0 | 0 | 0 | 0 |
| LOAN BORROWING LONG TERM-1) | 4 | 91004 | 324812 | 0 | | . 0 | 0 | 0 | • | 0 |
| LOAN BORROWING(LONG TERM-2) | 0 | 66279 | 237633 | ø | 0 | 0 | 3 | 0 | 0 | 0 |
| LOAN BORROWING(SHORT TERM) | Ô | 0 | 4892 | • | 0 | o | Q | 0 | 0 | 0 |
| TOTAL SOURCE OF CASH | 0 | 157503 | 567337 | 62022 | 282848 | 359127 | 116621 | 563914 | 692421 | 892974 |
| INUESMENT | o | 145904 | 501696 | ٥ | ٥ | 0 | 0 | 0 | ¢ | 0 |
| PRE-OPERATION EXPENCES | 0 | 0 | ۰ | • | ¢ | o | 0 | 0 | 0 | o |
| HORKING CAPITAL INCREASE | 0 | 0 | 4892 | • | • | 0 | 0 | 0 | • | 0 |
| INCOME TAX REPAYMENT | • | • | o | 13516 | 19992 | 26469 | 32945 | 38272 | 42193 | 46114 |
| LDAN REPAYMENT(LONG TERH-1) | 0 | , o | 0 | 41581 | 41581 | 41581 | 41581 | 41581 | 41581 | 41581 |
| LDAN REPAYHENT (LDNG TERH-2) | 0 | 0 | 0 | 60842 | 60842 | 60842 | 60842 | 60842 | ¢ | 0 |
| LOAN REPAYMENT (SHORT TERM) | Ø. | 0 | • | 684 | 489 | 489 | 489 | 489 | 489 | 489 |
| INTEREST (LOVG TERTIN | ⊘ ∶ | 1361 | 40204 | 41165 | 16298 | 32017 | 27443 | 22869 | 18295 | 13721 |
| INTEREST (LONG TERH-2) | 0 | 10315 | 20245 | 29204 | 21903 | 14602 | 1067 | °. | 0 | 0 |
| INTEREST (SHORT JERH) | 0 | 0 | o | 587 | 528 | 469 | 111 . | 352 | 293 | 234 |
| TAX FOR PROFIT DISTRIBUTED | o . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | • | 0 |
| DIVIDENDS | 0 | ¢ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Q |
| TOIAL APPLICATION FOR CASH | • | 157583 | 267337 | 173868 | 161934 | 150000 | 138067 | 126133 | 60658 | 56025 |
| KRT CASH INCREASE | 0 | Q. | 0 | 51205 | 60269 | 88313 | 106717 | 121937 | 193982 | 205186 |
| BALANCE AT END OF YEAR | 0 | 0 | 0 | 51205 | 120914 | 209127 | 315844 | 437781 | 631763 | 836949 |
| SALVAGE VALUE | • | 0 | • | ¢ | 0 | o | 0 | 0 | 0 | 0 |
| CASH FLOW (ROE) | 0 | 0 | 0 | 21305 | 69709 | 88213 | 106717 | 121937 | 193982 | 205186 |
| CASH FLOW (ROIBT) | 0 | -145904 | -501696 | 225073 | 231643 | 238213 | 244784 | 248070 | 254640 | 261211 |
| CASH FLOW (ROIAT) | 0 | -145904 | -501696 | 211557 | 211651 | 211744 | 211839 | 209798 | 212447 | 215097 |
| CUMULATIVE CASH FLOW(ROIAT) | 0 | -145904 | -647600 | -436043 | -224392 | -12648 | 101661 | 408989 | 621436 | 836533 |

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| PROJECT YEAR | CASH B | noja H | | SIATENENT (2/3) 10 11 | 13 1 | e T | 14 | 15 | 16 | 11 |
|------------------------------|-----------|---------|----------|--------------------------|---------|---------|----------|---------|---------|----------|
| KARANCE AT BEGINNING OF YEAR | 836949 | 1053337 | 1280928 | 1519718 | 1807211 | 2101273 | 2401906 | 2709110 | 3019597 | 3330084 |
| EARNINGS | 152282 | 158852 | 165419 | 172483 | 179052 | 185623 | 192194 | 195477 | 195477 | 195477 |
| DEFRECIATION | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 115010 | 010511 |
| AMORTIZATION | 489 | 489 | 161 | 0 | ø | ø | ٥ | 0 | 0 | 0 |
| LES INCREASE IN ACCOUNT RECU | 0 | 0 | 0 | 0 | 0 | • | • | 0 | 0 | a |
| TOTAL EROM FRODUCTION | 267781 | 274351 | 280920 | 287493 | 294062 | 300633 | 307204 | 310487 | 310487 | 310487 |
| PAID IN EQUITY | 0 | 0 | • • | Q | 0 | 0 | o | ø | 0 | 0 |
| LOAN BORROWING (LONG TERM-1) | 0 | 0 | 0 | 0 | 0 | 0 | • | • | 0 | 0 |
| LOAN BORROWING(LONG TERM-2) | Q | 0 | 0 | . 0 | o | 0 | 0 | 0 | 0 | ° |
| LOAN BORROWING(SHORT TERH) | 0 | • | 0 | • | 0 | ò | 0 | ٥ | 0 | 0 |
| TOTAL SOURCE OF CASH | 1104730 | 1327668 | 1561848 | 1607211 | 2101273 | 2401906 | 01160/2 | 3019597 | 3330084 | 3640571 |
| INUESTENT | 0 | 0 | 0 | 0 | 0 | ð | 0 | 0 | 0 | o |
| FRE-OFERATION EXFENCES | 0 | • | 0 | 0 | • | 0 | o | Ċ. | ٥ | 0 |
| WORKING CAPITAL INCREASE | 0 | 0 | 0 | 0 | • | 0 | 0 | 0 | 0 | Ģ |
| INCOME TAX REPAYNENT | 20032 | 23956 | 57876 | 69809 | 62668 | 64968 | 67267 | 68416 | 68416 | 68416 |
| LUAN REPAYMENT(LONG TERM-1) | 41581 | 41501 | 41581 | • | 0 | 0 | 0 | 0 | 0 | 0 |
| LOAN REPAYHENT (LONG TERM-2) | 0 | 0 | • | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LOAN REPAYMENT(SHORT IERH) | 489 | 469 | 491 | o | 0 | 0 | o | 0 | o | 0 |
| | 9147 | 4573 | 0 | 0 | 0 | 0 | 0 | 0 | Q | • |
| INTEREST (SONG) ISER-S) | 0 | 0 | • | • | 0 | | 0 | 0 | 0 | 3 |
| INTEREST (SHORT TERM) | 176 | 117 | 0) 17 | 0 | 0 | 0 | o | 0 | o | 0 |
| TAX FOR PROFIT DISTRIBUTED | 0 | 0 | 0 | o | ¢ | 0 | • | ٥ | 0 | 0 |
| 50X301513 | 0 | 0 | 0 | 0 | 0 | • | 0 | 0 | • | 0 |
| TUTAL APPLICATION FOR CASH | 51393 | 46760 | 42130 | 0 | 0 | 0 | 0 | 0 | • | 0 |
| NET CASH INCREASE | 216388 | 227591 | 238790 | 287493 | 294062 | 300633 | 307204 | 310487 | 310487 | 310487 |
| BALANCE AT END OF YEAR | 1053337 | 1280928 | 1519718 | 1807211 | 2101273 | 2401906 | 2709110 | 3019597 | 3330084 | 3640571 |
| SALVAGE VALUE | Ģ | 0 | 0 | 0 | O | 0 | O | 0 | 0 | o |
| CASH ELDW (ROZ) | 216388 | 227591 | 238790 | 287493 | 294062 | 300633 | 307204 | 310487 | 310487 | 310487 |
| CASH FLOW (ROIBT) | 267701 | 274351 | 026082 | 287493 | 294062 | 30.0633 | 307204 | 310487 | 310487 | 310487 |
| CASH FLOW (ROIAT) | 217746 | 220395 | 223044 | 227124 | 231394 | 235665 | 239937 | 242071 | 242071 | 242071 |
| CUMULATIVE CASH FLOW(RDIAT) | 1054279 | 1274674 | 1497718 | 1724842 | 1956236 | 2191901 | 2431838 | 2673909 | 2912980 | 3158051 |

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| PROJECT YEAR Barance at beginning of year | 18 18 3640571 3 | R 5204 3951058 | | 20 4261545 |
|--|-----------------------|---------------------------------------|------------|--|
| EARMINGS | 195427 | 254261 | | ین این این این این این این این این این ا |
| DEPRECIATION | 115010 | 115010 | 115010 | |
| AHORTIZATION | 0 | 0 | e 1 | |
| LES_INCREASE_IN_ACCOUNT_RECV | | ·····0-··· | | ייין וון איזער איזער איזער איזער איזער איזער איזער איזער איזער איזערע איזערער איזערער איזער איזער איזער איזער א איזער איזער איזע |
| IBTAL FROM PRODUCTION | 310467 | 310487 | 310487 | |
| PAID IN EQUITY | ¢ | 0 | 0 | |
| LOAN_BORROWINGCLONG_TERM_1) | <u>0</u> | 00 | 0 | والمتعاوية والمحافظ |
| LOAN BORROWING(LONG TERM-2) | 0 | . 0 | ٥ | |
| LOAN RORROWING(SHORT IERM) | ò | 0 | • | • |
| TOTAL_SOURCE_OE_CASH | | 4261545 | -4572032 | والمنافع والمساومة والمحادية |
| INUESHENI | Ċ | 0 | . 0 | |
| PRE-OPERATION EXPENSES | 0 | ¢ | 0 | |
| WORKING CARITAL INCREASE | | · · · · · · · · · · · · · · · · · · · | 0 | |
| INCOME TAX REPAYMENT | 68416 | 68416 | 68416 | |
| LOAN REPAYNENT(LONG TERM-1) | 0 | ٥ | . 0 | |
| LOAN REPAYMENTCLONG JERN-2) | | 0 | 0 | والالتان والمالية والمحافظة والمنافعة والمحافية والمحافية والمحافية والمحافظية والمحافظية والمحافية والمحافية والمحافية |
| LOAN REPAYNENT (SHORT TERM) | 0 | 0 | o | · · |
| INTEREST &LONG TERM-1) | 0 | 0 | 0 | |
| INTEREST | 0 | 0 | -0- | то таки и технология и политики и В политики и |
| INTEREST (SHORT TERM) | 0 | 0 | 0 | |
| TAX FOR PROFIL LISIRIBUTED | . 0 | Ċ | 0 | |
| DIVIDENDS. | -0 | | -00 | ويتريب والمراجع |
| TOTAL APPLICATION FOR CASH | ٥ | o | 0 | |
| ART CASH INCREASE | 310487 | 310487 | 310487 | |
| RALANCE AT END OF YEAR | | -4261545 | 4572032. | , , , , , , , , , , , , , , , , , , , |
| SALVAGE VALUE | 0 | . 0 | 0 | |
| CASH FLOW (ROE) | 310487 | 310487 | 310487 | |
| CASH ELOW (ROIBIL) | 2840TE | | | |
| CASH FLOW (ROIAT) | 342071 | | 342071 | |
| | | | | |

| | 89 89 | BALANCE | SHEET (1/3) | (e | | | | | | |
|---|----------|---------|-------------|---------|---------|---------|---------|---------|------------|-----------|
| FROJECT YEAR Assets | 1 1 | | 7 | ч | ы | ო | 4 | ίŋ | Ģ | ۲ |
| CURRENT-ASSETS | 0 | ٥ | 0 | 51205 | 120914 | 209127 | 315844 | 437781 | 631763 | 836949 |
| ACCOUNTS RECEIVABLE | ٥ | 0 | 0 | 0 | ٥ | ¢ | 0 | 0 | 0 | 0 |
| INVENTORY RAW-MATERIAL | 0 | 0 | 836 | 836 | 836- | | 836 | 836 | - 968 | 98 936 |
| NOKK-IN-FROCESS | ð | 0 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 |
| STODE DEHSINIZ | 0 | 0 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 |
| STORES-AND-SPARES | | • •••• | 1062 - | | 1062 | 1062 | 1062 | 1.062 | | |
| LESS: AMORTIZATION | 0 | 0 | 0 | -489 | -978 | -1467 | -1956 | -2445 | -2934 | -3423 |
| TOTAL OF CURRENT ASSETS | ٥ | o | 1892 | 55608 | 124828 | 212552 | 318780 | 440228 | 633721 | 838418 |
| EIXEU ASSETS Investment | | 145904 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 |
| PRE-OPERATION EXPENSES | 0 | • | o | ō | ٥ | 0 | • | 0 | 0 | 0 |
| TOTAL | | | 647600 | -647600 | 647600 | | | | - 647600 | 647600 |
| DEFERRED ASSETS | O, | 11679 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 |
| LESS: DEPRECIATION | 0 | 0 | 0 | -115010 | -230020 | -345030 | -460040 | -575050 | 090069- | -805070 |
| TOTAL-OF-FIXEDASSETS | | | | | | | | | | • |
| TOTAL ASSETS | 0 | 157503 | 224920 | 660626 | 614836 | 587550 | 578768 | 285206 | 663689 | 838418 |
| LIABILITIES AND EQUITY CUBBENT LIABILITIES | | | | - | . 1 | | | | | |
| ACCOUNT PAYABLE | 0 | 0 | ٥ | ò | 0 | 0 | ¢ | 0 | Q | 0 |
| SHORT TERH LOAN | 0 | 0 | 4892 | 4403 | 3914 | 3425 | 2936 | 2447 | 1958 | 1469 |
| TOTAL | 0 | 0 | 4892 | 4403 | 3914 | 3425 | 2936 | 2447 | 1958 | 1469 |
| LONG TERH LDAN(1) | 0 | 91004 | 415816 | 374235 | 332654 | 291073 | 249492 | 207911 | 166330 | 124749 |
| LONG TERH LOAN(2) | ٥ | G6579 | 304212 | 243370 | 182528 | 121686 | 60844 | (1 | 61 | N |
| EQUITY | | | 0 | 0 | -0 | | -0 | | 0 | 0 |
| KETAINED EARNINGS | 0 | • | 0 | 38618 | 95740 | 171366 | 265496 | 374846 | 495399 | 712198 |
| TOTAL | 0 | ¢ | Q | 38618 | 95740. | 171366 | 265496 | 374846 | 495399 | 712198 |
| TOTAL-OF -LIABILITIES | 0 | | | 660626 | 61.4836 | | | | . 663689 . | 314858 - |
| AND EGUITY | | | | | | | | | | |

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| - | ВА | BALANCE | SHEET (2/3) | (3) | | | | | | |
|-------------------------|-------------|---------|-------------|-----------|---------|----------|---------|---------|---------|----------|
| PROJECT YEAR ASSETS | co ' | ç | 10 | 11 . | 21 | 13 | 14 | 15 | 16 | 17 |
| CASH IN HAND | 1053337 | 1280928 | 1519718 | 1807211 | E/21012 | 2401906 | 2709110 | 3019597 | 3330084 | 3640571 |
| ACCOUNTS RECEIVABLE | • | 0 | ø | 0 | 0 | ٥ | 0 | 0 | 0 | 0 |
| INVENTORY | | | | 936 | -968 | | 928 | | 9E8 | 836 |
| WORK-IN-PROCESS | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 |
| EINISHED GOODS | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 | 1497 |
| | 1062 | 1062 | 1062 | | | 1062 | 1062 | 1062 | -1062 | 1062 |
| LESS: AMORTIZATION | 2168- | -4401 | -4892 | -4892 | -4892 | -4892 | -4892 | -4892 | -4892 | -4892 |
| TOTAL OF CURRENT ASSETS | 1054317 | 1281419 | 1519718 | 1807211 | 2101273 | 2401906 | 2709110 | 2636102 | 3330084 | 3640571 |
| FIXED ASSETS | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 | 647600 |
| PRE-OPERATION EXPENSES | ٥ | 0 | 0 | o | ¢ | 0 | 0 | 0 | 0 | Ø |
| TOTAL | | 647600- | 647600 | | | 647600 | 647600- | 647600 | | - 647600 |
| DEFERRED ASSETS | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 | 72428 |
| LESS: DEPRECIATION | -805070 | -802070 | -805070 | -805070 | -805070 | -805070 | -805070 | -805070 | -805070 | -805070 |
| TOTAL-DF-FIXEDASSETS | 0 | ~0 | -0 | ····0 | 0 | -0 | -0 | | | 0 |
| TOTAL ASSETS | 1054317 | 1261419 | 1519716 | 1807211 | 2101273 | 2401906 | 2749110 | 3019597 | 3330084 | 3640571 |
| LIABILITIES AND EQUITY | | | | | | • | | | | |
| ACCOUNT FAYABLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SHORT TERM LOAN | 086 | 491 | 0 | 0 | 0 | • | °. | 0 | 0 | 0 |
| TOIAL | 086 | 491 | 0 | • | 0 | 0 | 0 | 0 | 0 | 0 |
| LONG TERM LOAN(1) | 83168 | 41507 | | 9 | 0 | | 6 | 9 | و : | 9 |
| LONG TERM LOAN(2) | ભ | 11 | 13 | 61 | ମ୍ୟ | ы | ы | t7 | ¢1 | 77 |
| EQUITY PAID | 0 | -0 | - 0 | -0 | -0 | · 0····· | 0 | -0- | | 0 |
| RETAINED EAKNINGS | 970167 | 1239339 | 1513710 | 1807203 | 2101265 | 2401898 | 2709102 | 3019589 | 3330076 | 3640563 |
| TOTAL | 0 1 1 V L D | | | | | | | | | |

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| | 2 × | • | 4 2 | |
|---|---------------------------------------|-------------|---|--|
| PRUJECT YEAR Assets | 81 | 6 T | 0 | |
| CURRENT_ASSETS- | 3951058 | 1261545 | 4572032 | |
| ACCOUNTS RECEIVABLE | ¢ | 0 | ٥ | |
| INVENTORY | 836 | B36 | 968 | |
| SS30044-NI-XAOM | 1497 | 1497 | 1497 | |
| FINISHED GOODS | 1497 | 1497 | 1497 | |
| - "STORES. AND SPARES | | 1063 - | -1062 | a e professionen en a construction en a service particular en a service particular de la service de la service de |
| LESS: AMORTIZATION | -4892 | -4892 | -4892 | |
| TOTAL OF CURRENT ASSETS | 3951058 | 4261545 | 4572032 | |
| FIXED ASSETS INVESTMENT | 647600 | 647600 | 647600 | |
| PRE-OPERATION EXPENSES | 0 | 0 | 0 | · · · · |
| "TOTAL" | 647600 | 647600 | 647600 | يرين - معنى ماركان مى مى ماركان مى ماركان مى مى ماركان مى مى ماركان مى ماركان مى ماركان مى ماركان مى ماركان مى مى ماركان مى |
| DEEERRED ASSETS | 72428 | 72428 | 72428 | ••• |
| LESS: DEPRECIATION | -805070 | -805070 | -805070 | |
| TOTAL-OFF.IXEDASSETS | · · · · · · · · · · · · · · · · · · · | | •0•••••0•• | a an ann an an an an Annaichtean ann ann an ann an ann an ann an ann an a |
| IDTAL ASSETS | 3951058 | 4261545 | 4572032 | |
| LIARILITIES AND EQUITY - Current-Liarliates - Account Payable | 0 | 0 | Ċ | |
| SHORT TERM LOAN | 0 | 0 | 0 | |
| TOTAL | | 0 | ٥ | |
| LONG TERN LOAN(1) | 9 | 9 | و : | n e mar a los formas anos a mante aos comos managoras managoras no esta de antenes de marso de la serie e la seconda de la s |
| LONG TERM LOAN(2) | 77 | C1 | 63 | |
| - PAJD-IN-CAPJIAL | -0 | -0 | · O · · · · · · · · · · · · · · · · · · | |
| RETAINED EARNINGS | 3951050 | 4261537 | 4272024 | |
| | | 600 - U 6 4 | 4600044 | - |

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Base Case II(After Renovation) 555-2-N N 40.5 40.5 , BREAK-EVEN POINT= , BREAK-EVEN POINT= IS YEAR , SALES VOLUME =100.0 19 YEAR , SALES VOLUME =100.0 MONTH ·---{ 0.3451 0.3057 ; NOT FOUND 3 YEAR 1. ORDINARY BREAK-EVEN POINT li ----BREAK-EVEN-POINT----1I II --Z----CASH---BREAK--EVEN--POINT--DCF RATE (FIRKOIBT) RATE (FIRROIAT) $\hat{}$ ZERO POINT OF PAYOUT I. DCF RATE (FIRROE 1 ----- DCF RATE TUOYA -----DCF . ო r i

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XI-2 Economic Evaluation

Detailed financial analysis of the renovation has be made in XI-2. In this article, the renovation is further evaluated from economic point of view, so that the feature of the renovation can be visualized more clearly. The implementation of the renovation will remarkably decrease fuel consumption through the conversion of production system from wet process to dry process and reduce electric unit cost through the conversion of electrical source.

Relevant economic costs and benefits of the renovation are evaluated quatitatively and qualitatively comparing those before the renovation.

(1) Improvement of international payments

(i) Reduction of foreign currency payment

The production costs that are remarkably reduced through the implementation of the renovation are fuel cost and electrical cost. The latter, however, does not contribute the save of foreign currency because it is due to the conversion of electrical source.

Therefore the reduction of fuel cost remarkably contributes the improvement of international payments.

Provided that all the coal is to be imported, reduction of annual foreign currency payment in case of 100% operation is calculated as follows:

Fuel cost before renovation Pesos 259,146,000/yearFuel cost after renovationPesos 142,919,000/yearReduction of paymentPesos 116,227,000/year

Since the above mentioned amount includes import tax and inland transportation cost which correspond to about 33% of total amount. Therefore the net reduction of foreign currency payment is calculated as follows:

Net reduction of foreign currency payment Pesos 77,000,000/year

(ii) Increase of foreign currency payment

A part of the capital requirement for the renovation is furnished in foreign currency.

Foreign currency portion: Pesos 415,818,000

According to loan condition the repayment period is 10 years and interest rate is 11% /year.

Therefore average foreign currency payment is calculated as follows:

| Principal | Pesos | 41,581,800/year |
|--------------------|-------|-----------------|
| Interest (average) | Pesos | 22,870,000/year |
| Total | Pesos | 64,451,850/year |

(iii) Foreign currency savings

The amount of foreign currency savings is calculated as follows:

Total savings for 20 years after the renovation

| Case I | Pesos 658,000,000 |
|---------|-------------------|
| Case II | Pesos 747,000,000 |

Annual savings from 21st year after the renovation

| Case I | Pesos | 77,000,000/year |
|---------|-------|-----------------|
| Case II | Pesos | 77,000,000/year |

Note: (1) Average operation ratio during 20 years after the renovation is:

(2) Payment of foreign currency including that of interest is completed in 10th year after the renovation.

(2) Ensurance of local employment

In case the renovation is implemented, the management condition of ICC is much improved and its cement plant is operated steadily for long years.

Accordingly the employment of Antipolo area with regards to the personnel related to ICC can be ensured for long period.

(3) Economic internal rate of return (EIRR)

At first the economic benefit and economic cost are quantitatively calculated both in case the renovation is implemented and in case not implemented and then EIRR is calculated based on that results.

The economic profit of the renovation is generated by the cement produced. That is: the economic profit is expressed by the difference between the economic value of cement produced and the economic cost necessary for the production.

Case I : 84.6% Case II : 90.4%

(i)

(a) Case

Case IProduction ratio of OPC to PC50:50Case IIProduction ratio of OPC to PC80:20

(b) Conversion factor

The following figures which were learnt from the offices concerned in Philippines were used as the conversion factors.

Standard conversion factor0.86Factor for skilled labor1.00Factor for unskilled labor0.80

(c) Capital requirement for renovation

Refer to X-2 and XI-1-3.

(d) Production and sales price of cement

Refer to XI-1-4.

(e) Production cost

Refer to XI-1-5.

(f) Other conditions

Refer to XI-1-1.

(ii) Economic capital requirement for renovation

The capital requirement for renovation used for financial analysis is shown in Table 11-2-1.

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| | Foreign | | | urrency P | ortion | | |
|-------|----------|----------|---------|----------------|----------|-----------|---------|
| Year | Currency | Material | Lab | our | | | Total |
| | Portion | | Skilled | Un- skilled | Expenses | Sub-total | |
| - 2 | 69,201 | 36,114 | 16,346 | 11,612 | 12,631 | 76,703 | 145,904 |
| - 1 | 305,049 | 91,166 | 38,813 | 32,346 | 34,322 | 196,647 | 501,696 |
| Total | 374,250 | 127,280 | 55,159 | 43,958 | 46,953 | 273,350 | 647,600 |

Table 11-2-1 Financial Capital Requirement

Based on the above Table the economic capital requirement is calculated using the conversion factors and shown in Table 11-2-2.

Table 11-2-2 Economic Capital Requirement

(1,000 Pesos)

| | Foreign | | Local C | urrency F | Portion | | |
|---------|---------------------|----------|---------|----------------|----------|-----------|---------|
| | Currency Portion | | Lab | our | | | Total |
| Cit | I OI tIOII | Material | Skilled | Un- skilled | Expenses | Sub-total | |
| Year V. | 1.00 | 0.86 | 1.00 | 0.80 | 0.86 | - | - |
| - 2 | 69,201 | 31,058 | 16,346 | 9,290 | 10,863 | 67,557 | 136,758 |
| -1 | 305,049 | 78,403 | 38,813 | 25,877 | 29,517 | 172,610 | 477,659 |
| Total | 374,250 | 109,461 | 55,159 | 35,167 | 40,380 | 240,167 | 614,417 |

(iii) Economic production cost

Based on the production cost for financial analysis the economic production cost is calculated and show in Table 11-2-3 (Case I) and Table 11-2-4 (Case II).

| · · · · · · · · · · · · · · · · · · · | | Before Re | novation | After Re | enovation |
|--|------|---------------------------------------|----------|-----------|-----------|
| | C.F. | Financial | Economic | Financial | Economic |
| [Direct cost] | | · · · · · · · · · · · · · · · · · · · | | | |
| Raw material | 0.86 | 99,948 | 85,948 | 93,459 | 80,375 |
| Fuel * | 0.77 | 259,146 | 199,542 | 142,919 | 110,048 |
| Grinding media | 1.0 | 12,921 | 12,921 | 12,921 | 12,921 |
| Fire brick | 1.0 | 23,400 | 23,400 | 11,700 | 11,700 |
| Lube. oil | 0.86 | 9,398 | 8,082 | 9,398 | 8,082 |
| Ēlectricity | 0.86 | 315,821 | 271,606 | 138,500 | 119,110 |
| Paper bag | 0.86 | 97,953 | 84,240 | 97,953 | 84,240 |
| Repair expenses | 0.86 | 17,855 | 15,355 | 17,855 | 15,355 |
| Export promotion | 0.86 | 11,747 | 10,102 | 11,747 | 10,102 |
| ······································ | | | | | |
| Sub total | | 848,181 | 711,196 | 536,452 | 451,933 |
| [Fixed cost] | | • • • • • • • • • • • • • • • • | | | |
| Salaries & wages | ** | 9,492 | 9,212 | 9,761 | 9,473 |
| Depreciation | 0 | 67,469 | 0 | 115,010 | 0 |
| Amortization | 0 | 836 | 0 | 515 | 0 |
| Interest | 0 | 702 | 0 | 47,282 | 0 |
| Administrative exp. | 0.86 | 8,280 | 7,121 | 8,280 | 7,121 |
| · · · · · · · · · · · · · · · · · · · | | · · · · · | | <u> </u> | |
| Sub total | | 86,779 | 16,333 | 180,848 | 16,594 |
| Total | | 934,960 | 727,529 | 717,300 | 468,527 |

Table 11-2-3 Economic Production Cost (Case 1) (1,000 Pesos/Year)

Note. 1 * Conversion factor of fuel.

The breakdown of the cost of 66,601 ton of coal used by ICC in 1985 is shown in Table 11-2-5.

| | C.F. | Before Re | novation | After Re | novation |
|---------------------|------|-----------------|----------|-----------|----------|
| | | Financial | Economic | Financial | Economic |
| [Direct cost] | | | | | |
| Raw material | 0.86 | 89 ,9 99 | 77,399 | 83,598 | 71,894 |
| Fuel | 0.77 | 259,146 | 199,542 | 142,919 | 110,048 |
| Grinding media | 1.0 | 12,713 | 12,713 | 3,200 | 3,200 |
| Fire brick | 1.0 | 23,400 | 23,400 | 11,635 | 11,635 |
| Lube. oil | 0.86 | 8,619 | 7,412 | 8,619 | 7,412 |
| Electricity | 0.86 | 304,663 | 262,010 | 133,096 | 114,462 |
| Paper bag | 0.86 | 89,835 | 77,258 | 89,835 | 77,258 |
| Repair expenses | 0.86 | 16,376 | 14,083 | 16,376 | 14,083 |
| Export promotion | 0.86 | 10,774 | 9,266 | 10,744 | 9,266 |
| Sub total | | 815,525 | 683,083 | 500,052 | 419,258 |
| [Fixed cost] | | | | | |
| Salaries & wages | | 9,492 | 9,212 | 9,761 | 9,473 |
| Depreciation | 0 | 67,469 | 0 | 115,010 | 0 |
| Amortization | 0 | 804 | 0 | 489 | 0 |
| Interest | 0 | 4,540 | 0 | 35,400 | 0 |
| Administrative exp. | 0.86 | 8,280 | 7,121 | 8,280 | 7,121 |
| Sub total | | 90,585 | 16,333 | 168,940 | 16,594 |
| , | | | · | | |
| Total | | 906,110 | 699,416 | 668,992 | 435,852 |

Table 11-2-4 Economic Product Cost (Case II) (1,000 Pesos/Year)

· ·

(iv) Sales revenue

(a) Economic price of cement

The cement produced in the Philippines is exported at present and its quality is equal to that of other cement exporting countries. Since no cement is imported now, CIF price of cement cannot be obtained. Further the domestic cement price is almost the same as the international cement price. Considering the factors mentioned above the conversion factor of cement is deemed to be 1.0.

In economic price the sales tax that is included in the financial cement price is to be zero.

The economic ex-factory cement price and the average economic cement price of Case I and Case II are shown in Table 11-2-6 and Table 11-2-7 respectively.

Table 11-2-6 Economic Price of Cement

Peso/bag

| | Financial Price | | | Ec | Economic Price | | |
|------|-----------------|-----------|-------|------------|----------------|-------|--|
| C | Unit Price | Sales Tax | Total | Unit Price | Sales Tax | Total | |
| · A. | - | | - | 1.0 | 0 | - | |
| OPC | 38.64 | 3.86 | 42.5 | 38.6 | 0 | 38.64 | |
| PC | 37.73 | 3.77 | 41.5 | 37.73 | 0 | 37.73 | |

| | | Economic Price | | |
|---------|-------|----------------|----------|--|
| | PC/PC | Peso/bag | Peso/ton | |
| Case I | 50/50 | 38,185 | 954,625 | |
| Case II | 80/20 | 38,458 | 961,450 | |

Table 11-2-7 Average Economic Price of Cement

(b) Economic sales revenue of cement

The economic sales revenue is calculated using the economic cement price stated in (a) and shown in Table 11-2-8.

(v) Economic internal rate of return

Based on the matters stated in (i) (iv) the economic benefit before renovation and that after renovation are calculated and using the deference between them the economic internal rate of return is calculated and shown in Table 11-2-9.

| | | Case I | | Case II | | | |
|------|--------------------|----------------|------------------|--------------------|----------------|------------------|--|
| Year | Operation Ratio | Production | Sales Revenue | Operation Ratio | Production | Sales Revenue | |
| | <u>0</u> 0 | 1,000 ton/y | 1,000₽/y | 00 | 1,000 ton/y | 1,000₽/y | |
| . 1 | 68 | 639,036 | 610,039 | 74 | 637,791 | 613,204 | |
| 2. | 69 | 648,434 | 619,011 | 76 | 655,028 | 629,776 | |
| 3 | 71 | 667,229 | 636,953 | 78 | 672,266 | 646,350 | |
| 4 | 73 | 686,024 | 654,895 | 80 | 689,504 | 662,923 | |
| 5 | 75 | 704,820 | 672,838 | 81 | 698,122 | 671,209 | |
| 6 | 77 | 723,615 | 690,780 | 83 | 715,360 | 687,782 | |
| 7 | 78 | 733,012 | 699,751 | 85 | 732,598 | 704,356 | |
| 8 | 80 | 751,808 | 717,694 | 87 | 749,835 | 720,928 | |
| 9 | 82 | 770,603 | 735,636 | 89 | 767,073 | 737,502 | |
| 10 | 83 | 780,000 | 744,608 | 91 | 784,310 | 754,074 | |
| 11 | 85 | 798,796 | 762,550 | 93 | 801,548 | 770,648 | |
| 12 | 87 | 817,591 | 780,492 | 95 | 818,786 | 787,221 | |
| 13 | 89 | 836,386 | 798,434 | 97 | 836,023 | 803,794 | |
| 14 | 91 | 855,181 | 816,377 | 99 | 853,261 | 820,367 | |
| 15 | 93 | 873,976 | 834,319 | 100 | 861,880 | 828,654 | |
| 16 | 95 | 892,772 | 832,214 | 100 | 861,880 | 828,654 | |
| 17 | 97 | 911,567 | 870,204 | 100 | 861,880 | 828,654 | |
| 18 | 99 | 930,362 | 888,146 | 100 | 861,880 | 828,654 | |
| 19 | 100 | 939,760 | 897,118 | 100 | 861,880 | 828,654 | |
| 20 | 100 | 939,760 | 897,118 | 100 | 861,880 | 828,654 | |

Table 11-2-8 Economic Sales Revenue

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The process of calculation for Case I is shown in Table 11-2-10 \sim 11-2-12 and for Case II in Table 11-2-13 \sim II-2-15 respectively.

Table 11-2-9 Economic Internal Rate of Return

| <u> </u> | Case I | Case II |
|---------------------|--------|---------|
| EIRR | 28.9 | 31.8 |
| FIRROI (before tax) | 33.3 | 35.5 |
| FIRROI (after tax) | 28.8 | 31.6 |

Consideration

- 1. Judging from EIRR, the economic profitability of both Cases I and II are high.
- 2. What greatly contribute to this profitability are reduction of fuel cost and electric cost.
- 3. In both Cases I and II, EIRR is almost equal to FIRROI (after tax) and somewhat lower than FIRROI (before tax) but show the same trend.

| Year | Pro- duction 1,000 Ton | l Direct | Fixed cost | Sales revenue | Salvage value | Net benefit |
|------|------------------------------|----------|---------------------------------------|------------------|--|----------------|
| - 2 | | | l . | - | | - |
| -1 | | | · · · · · · · · · · · · · · · · · · · | | | - |
| 1 | 639,036 | 483,613 | 16,333 | 610,039 | | 110,093 |
| 2 | 648,434 | 490,725 | 11 | 619,011 | | 111,953 |
| 3 | 667,229 | 504,949 | 1 11 | 636,953 | | 115,671 |
| 4 | 686,024 | 519,173 | 11 | 654,895 | · · · · | 119,389 |
| 5 | 704,820 | 533,397 | 11 | 672,838 | •••••••••••••••••••••••••••••••••••••• | 123,108 |
| 6 | 723,615 | 547,621 | n - | 690,780 | | 126,826 |
| 7 | 773,012 | 554,733 | H . | 699,751 | | 128,685 |
| 8 | 751,808 | 568,957 | (u | 717,694 | | 132,404 |
| 9 | 770,603 | 583,181 | 11. | 735,636 | | 136,122 |
| 10 | 780,000 | 590,293 | 1 | 744,608 | | 137,982 |
| 11 | 798,796 | 604,517 | . 11 | 762,550 | | 141,700 |
| 12 | 817,591 | 618,741 | 11 | 780,492 | | 145,418 |
| 13 | 836,386 | 632,964 | 11 | 798,434 | | 149,137 |
| 14 | 855,181 | 647,188 | 1 11 | 816,377 | | 152,856 |
| 15 | 873,976 | 661,412 | 11 | 834,319 | | 156,574 |
| 16 | 892,772 | 675,636 | 11 | 852,214 | | 160,245 |
| 17 | 911,567 | 689,860 | 11 | 870,204 | | 164,011 |
| 18 | 930,362 | 704,084 | 11 | 888,146 | | 167,729 |
| 19 | 939,760 | 711,196 | 11 | 897,118 | | 169,589 |
| 20 | ย | Pt - | . H | 11 | 7,012 | 176,601 |

Table 11-2-10 Economic Internal Rate of Return (Case I)

•

(Before Renovation) (1,000 Pesos)

 \sim

| | | | (After Re | | | (1,0 | 00 Pesos) |
|----------|------------------------------|--|--------------------|----------------|--------------------|---------------------------------------|------------------------|
| Year | Pro- duction 1,000 Ton | Renovation capital re- quirement | Direct c ost | Fixed cost | Sales revenue | Salvage value | Net benefit |
| -2 -1 | | (136,758) (477,659) | | | - | | (136,758) (477,659) |
| 1 2 | 639,036 648,434 | | 307,314 311,834 | 16,594 | 610,039 619,011 | | 286,131 290,583 |
| 3 4 | 667,229 686,024 | | 320,872 329,911 | H D | 636,953 654,895 | | 299,487 308,390 |
| 5 6 | 704,820 723,615 | | 338,950 347,988 | 11 11 | 672,838 690,780 | | 317,294 326,198 |
| 7 8 | 773,012 751,808 | | 352,508 361,546 | 31 | 699,751 717,694 | | 330,649 339,554 |
| 9 10 | 770,603 780,000 | | 370,585 375,104 | 81 81 11 | 735,636 744,608 | | 348,457 352,910 |
| 11 12 | 798,796 817,591 | | 384,143 393,182 | 11 - 11 | 762,550 780,492 | · · · · · · · · · · · · · · · · · · · | 361,813 370,716 |
| 13 14 | 836,386 855,181 | | 402,220 411,259 |)† 17 | 798,434 816,377 | | 379,620 388,524 |
| 15 16 | 873,976 892,772 | | 420,298 429,336 | 13 17 | 834,319 852,214 | | 397,427 406,284 |
| 17 18 | 911,567 930,362 | | 438,375 447,414 | 11 11 | 870,204 888,146 | | 415,235 424,138 |
| 19 20 | 939,760 | | 451,933 " | 11 11 | 897,118 | 4,326 | 428,591 432,917 |

Table 11-2-11 Economic Internal Rate of Return (Case I)

.

| Year | Benefit difference* | Discount rate | | | |
|------|---------------------|---------------|------------|--|--|
| | | 28% | 29% | | |
| -2 | [136,758] | [106,849] | [106,015] | | |
| -1 | [477,659] | [291,563] | [287,025] | | |
| 1 | 176,038 | 83,935 | 81,999 | | |
| 2 | 178,630 | 66,540 | 64,503 | | |
| 3 | 183,816 | 53,490 | 51,450 | | |
| 4 | 189,001 | 42,979 | 41,013 | | |
| 5 | 190,468 | 33,827 | 32,037 | | |
| 6 | 199,372 | 27,673 | 25,998 | | |
| 7 | 201,964 | 21,893 | 20,419 | | |
| 8 | 207,150 | 17,546 | 16,232 | | |
| .9 | 212,335 | 14,050 | 12,897 | | |
| 10 | 214,928 | 11,125 | 10,121 | | |
| 11 | 220,113 | 8,888 | 8,034 | | |
| 12 | 225,298 | 7,108 | 6,376 | | |
| 13 | 230,483 | 5,681 | 5,057 | | |
| 14 | 235,666 | 4,539 | 4,006 | | |
| 15 | 240,853 | 3,625 | 3,174 | | |
| 16 | 246,039 | 2,891 | 2,515 | | |
| 17 | 251,224 | 2,306 | 1,990 | | |
| 18 | 256,409 | 1,838 | 1,574 | | |
| 19 | 259,002 | 1,453 | 1,233 | | |
| 20 | 256,316 | 1,228 | 946 | | |
| | | +14,203 | -1,466 | | |

Table 11-2-12 Economic Internal Rate of Return (Case I)

EIRR = 28.9%

Note: * Benefit difference between before and after renovation.

| Year | Pro- duction 1,000 Ton | Renovation capital re- quirement | Direct cost | Fixed cost | Sales revenue | Salvage value | Net benefit |
|----------|------------------------------|--|--------------------|---------------|--------------------|------------------|--------------------|
| -2 ~1 | | - | | | - | | •• |
| 1 2 | 637,791 655,028 | | 505,481 519,143 | 16,333 | 613,204 629,776 | | 91,390 94,300 |
| 3 4 | 672,266 689,504 | | 532,805 546,466 | н 11 | 646,350 662,923 | | 97,212 100,124 |
| 5 6 | 698,122 715,360 | | 553,297 566,959 | tr | 671,209 687,782 | | 101,579 104,490 |
| 7 8 | 732,598 | | 580,621 594,282 | 51 11 | 704,356 720,928 | | 107,402 110,313 |
| 9 10 | 767,073 784,310 | | 607,044 621,606 | 11 11 | 737,502 754,074 | | 113,225 116,135 |
| 11 12 | 801,548 818,786 | | 635,267 648,929 | 11 11 | 770,648 787,221 | | 119,048 121,959 |
| 13 14 | 836,023 853,261 | | 662,591 676,252 | . 11 | 803,794 820,367 | · · · | 124,870 127,782 |
| 15 16 | 861,880 | | 683,083 " | 17 11 | 828,654 | | 129,238 " |
| 17 18 | 1) 11 | | 11 11 | 11 | 11 | | 11 |
| 19 20 | - TI TI | | H H | 17 | 11 11 | 6,682 | " 135,920 |

Table 11-2-13 Economic Internal Rate of Return (Case II)(before Renovation)(1,000 Pesos)

.

Table 11-2-14 Economic Internal Rate of Return (Case II)

(after Renovation) (1,000 Pesos)

| Year | Pro- duction | Renovation capital re- quirement | Direct cost | Fixed cost | Sales revenue | Salvage value | Net benefit |
|---------|-----------------|--|----------------|---------------|------------------|------------------|----------------|
| | 1,000 101 | 1 | cost | COSt | | | |
| - 2 | | (136,758) | | | | | (136,758) |
| | - | (477,659) | | | | | (477,659) |
| - 1 | | (411,009) | | | | | |
| 1 | 637,791 | | 310,251 | 16,594 | 613,204 | | 286,359 |
| 2 | 655,028 | | 318,636 | n | 629,776 | | 294,546 |
| 3 | 672,266 | | 327,021 | 11 | 646,350 | | 302,735 |
| 4 | | | 335,406 | 11 | 662,923 | | 310,923 |
| 4 | 689,504 | | | | 002,020 | | |
| 5 | 600 100 | • | 339,599 | н | 671,209 | | 315,016 |
| | 698,122 | | 347,984 | | 687,782 | | 323,204 |
| 6 | 715,360 | · · · · · · · · · · · · · · · · · · · | 347,304 | | | ····· | <u> </u> |
| 7 | 732,598 | | 356,369 | 11 | 704,356 | | 331,393 |
| 8 | 749,835 | | 364,754 | 11 | 720,928 | | 339,580 |
| 9 | 767,073 | | 373,140 | 11 | 737,502 | | 347,768 |
| 9 10 | 784,310 | * . | 381,525 | 11 | 754,074 | | 355,955 |
| 10 | 104,510 | | | | | · | |
| 11 | 801,548 | | 389,910 | 11 | 770,648 | 1 | 364,144 |
| 12 | 818,786 | | 398,295 | 11 | 787,221 | | 372,332 |
| ····· | | | | | | | |
| 13 | 836,023 | | 406,680 | 11 | 803,794 | 1 | 380,520 |
| 14 | 853,261 | | 415,065 | 11 | 820,367 | | 388,708 |
| 15 | 861,880 | | 419,258 | 11 | 828,654 | | 392,802 |
| 16 | 11 | | 110,200 | 11 | 1 | | 11 |
| <u></u> | ļ | | | | { | · | l |
| 17 | 11 | | 17 | н | 11 | - | H 🖓 |
| 18 | . 11 | | 11 | 11 | n | | 11 |
| 19 | 11 | | - 11 | - 11 | n | | 11 |
| 20 | 11 | | H. | 11 | 13 | 4,049 | 396,851 |

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| Voon | Benefit difference | Discount rate | | | |
|------|--------------------|---------------|--------------------|--|--|
| Year | Denent difference | 31% | 32% | | |
| -2 | [136,758] | [104,401] | [103,608] | | |
| -1 | [477,659] | [278,332] | [274,129] | | |
| 1 | 194,969 | 86,722 | 84,773 | | |
| 2 | 200,246 | 68,004 | 65,961 | | |
| 3 | 205,523 | 53,272 | 51,278 | | |
| 4 | 210,799 | 41,717 | 39,841 | | |
| 5 | 213,437 | 32,229 | 30,564 | | |
| 6 | 218,714 | 25,218 | 23,730 | | |
| 7 | 223,991 | 19,711 | $18,410 \\ 14,276$ | | |
| 8 | 229,267 | 15,404 | | | |
| 9 | 234,543 | 12,030 | 11,063 | | |
| 10 | 239,820 | 9,389 | 8,571 | | |
| 11 | 245,096 | 7,326 | 6,635 | | |
| 12 | 250,373 | 5,711 | 5,135 | | |
| 13 | 255,650 | 4,453 | 3,973 | | |
| 14 | 260,926 | 3,468 | 3,071 | | |
| 15 | 263,564 | 2,675 | 2,348 | | |
| 16 | | 2,043 | 1,782 | | |
| 17 | 11 | 1,558 | 1,349 | | |
| 18 | 11 | 1,189 | 1,023 | | |
| 19 | " | 0,912 | 0,775 | | |
| 20 | 270,246 | 0,711 | 0,600 | | |
| | · · · · | +11,009 | -2,579 | | |

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Table 11-2-15 Economic Internal Rate of Return (Case II)

EIRR=31.8%

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SECTION XII CONCLUSION AND RECOMMENDATION

XII-1 Conclusion

Since Antipolo plant of ICC is consuming much fuel due to its wet process and paying higher unit electricity cost because the electricity is supplied by MERALCO.

As these two items are greatly suppressing its financial situation, the renovation plan mainly consisting of the conversion from wet process kiln to dry process NSP kiln and the conversion of electricity source is considered as a countermeasure.

After examination of the plant, this renovation project is judged to be feasible both in technically and economically under the premise stated in I-1.

 Policy of the Government of the Republic of the Philippines with respect to the cement industries in the Philippines as well as the rehabilitation and modernization of ICC.

The Government of the Philippines is adopting price policy, market policy, and export policy towards the cement industries and assisting the improvement of production technology and quality.

The Government intends to cooperate the renovation of ICC in case the cement demand is recovered and the investment to this project is judged to be effective.

Remark: Policy of the Government described above is what was expressed during the field survey in January 1986. (2) Present situations and future prospects of supply and demand

Average production of past 11 years is 4,100,000 ton/year which corresponds to about 70% of the total production capacity of the country, 6,000,000 ton/year.

Demand forecasts of cement were made by the trend analysis, correlation analysis, estimation based on similar cases and the forecast prepared in the Philippines.

Among the estimations mentioned above, the forecast calculated by correlation analysis with population has been adopted as the basis of this study due to the reasons described as follows.

- The population is highest in correlativity with cement consumption.
- The above forecast is on the conservative side when making an estimation.

(3) The environment of Antipolo

Antipolo area is situated in the vicinity of Metro Manila which is a big cement consuming city and surrounded by deposits of main cement raw materials.

It is quite favourably located as a cement plant site.

(4) Management of ICC

Although controls of plant such as plant operation and maintenance are to be improved in various points, the management of plant of a whole is conducted normally. However fuel cost and electricity cost are so high that they suppress the financial situation greatly.

(5) Facilities of ICC

According to ICC's data, the main raw materials seems to be satisfied both in quality and in quantity.

The plant facilities are considered to operate at their rated capacity if maintained well, although some problems are pointed out.

(6) Process of ICC

ICC's present process is wet long kiln system which consumes more fuel than other processes. No technical problem exists in converting the process from wet long kiln system to dry NSP kiln system.

(7) Study on electric power source to the Antipolo plant of ICC

The unit electricity sales charge for industry of MERALCO from which ICC is supplied the electricity is largely higher than that of NPC.

Therefore by converting the electric power source from MERALCO to NPC, remarkable decrease in production cost can be achieved with a small investment.

(8) Management after rehabilitation and modernization of ICC

The control for new machinery and equipment to be installed through the renovation should be conducted steadily.

While some parts of various controls which have been imperfect or inadequate should be improved.

(9) Formulation of rehabilitation and modernization program of ICC

The renovation plan was made centering around the process conversion to dry process NSP system and the conversion of electricity power source.

The total capital requirement of the renovation is Pesos 725,182,000, and is mainly financed by long term loan.

The period necessary for the renovation is:

- 10 months of preparation period for selecting a consultant and a contractor and
- 24 months of construction works, and so
- total 34 months

(10) Evaluation

(i) Financial analysis

The profitability of the renovation is shown in Table 12-1-1.

Table 12-1-1 FIRROI of Basic Cases

| <u></u> | · · · · · · · · · · · · · · · · · · · | |
|---------------------|---------------------------------------|---------|
| | Case I | Case II |
| FIRROI (before tax) | 33.3 | 35.5 |
| FIRROI (after tax) | 28.8 | 31.6 |

Note: These figures were calculated based on cash flow difference between those before and after the implementation of renovation.

(ii) Economic evaluation

EIRR of this renovation of Case I and Case II are 28.9% and 31.8% respectively which show high economic viability.