

財務的に健全な状態とは以下の状態と定義する。

- DSCが1.5以上あり、なおかつ
- 返済期間中のFIRRが財務費用（利率）と同等以上か
- BOT期間中のFIRRが財務費用と同等以上ある。

18.1.2 条件

(1) 会計構造

下の表は財務分析で使う会計構造を示したものである。この構造はアジア開発銀行（ADB）のNam Thuen 1-2 Hydropower Projectの報告書を参照している。

| | |
|------|----------------------|
| | Sales Revenue |
| less | O/M Cost |
| less | Royalty |
| less | Depreciation |
| = | Net Operation Income |
| less | Interest Payment |
| = | Income before Tax |
| less | Tax |
| = | Net Income after Tax |

| | |
|------|-----------------------|
| = | Net Operation Income |
| plus | Depreciation |
| = | Current Asset in Cash |

| | |
|------|----------------------|
| = | Net Income after Tax |
| plus | Depreciation |
| plus | Interest Payment |
| = | Net Profit |

Table 18.1-1 Common Conditions for Financial Analysis
(Case-A: Materialized by the Lao Government)

| Items | Value and Conditions |
|--|--|
| Financing Proportion a/ | Own Finance 10 % Official Loan 80 % Bilateral Loan 10 % |
| Loan Conditions a/ | 6.0 % for interest rate and 25 years repayment period |
| Graced Period | During Construction |
| Project Life Time | 50 years |
| Initial Fixed Asset a/ | Construction Cost after escalation + IDC |
| Depreciation Method | Constant Value Method |
| Income Tax | 20 % |
| Export/Domestic a/ | 100/0 (All salable energy will be allocate for export provisionally.) |
| Export Tariff in year 0 b/ | 52.41 US\$/MWh ($39.00 \times (1+0.03)^{10} = 52.41$) |
| Export Tariff Escalation | 1.0 % per year |
| Domestic Tariff in Year 0 c/ | 34.33 US\$/MWh ($28.17 \times (1+0.02)^{10} = 34.33$) |
| Domestic Tariff Escalation a/ | 1.0 % per year |
| Increase of Domestic Consumption a/ | 0.0 % per year |
| Price Escalation | F/C: 2.8 % (IBRD's projection as of 1990) L/C: 4.5 % (Thailand 1990-1993 average) |

Note: a/ JICA's assumption or estimate

b/ According to Nam Thuen1-2, tariff escalation up to 3 %/year is accepted by EGAT.

c/ JICA's estimate 20 kip/kWh at 1994 (1 US\$ = 710 kip) equals to 28.17 US\$/MWh.

Table 18.1-2 Common Conditions for Financial Analysis
(Case-B: Materialized by BOT)

| Items | Value and Conditions |
|-------------------------------------|--|
| Share of Equity | Lao PDR : Private = 25:75 |
| Debt/Equity | 70/30 |
| Royalty | 10 % of Sales Revenue Payment will be made from the first year of the commercial operation. |
| Interest Rate | 10 % for IDC and onwards |
| Graced Period | During Construction |
| Repayment Period | 10 years |
| Project Life Time | 50 years |
| Initial Fixed Asset a/ | Construction Cost after escalation + IDC |
| Depreciation Method | Constant Value Method |
| Income Tax | 20 % |
| Export/Domestic a/ | 100/0 (All salable energy will be allocate for export provisionally.) |
| Export Tariff in year 0 b/ | 52.41 US\$/MWh ($39.00 \times (1+0.03)^{10} = 52.41$) |
| Export Tariff Escalation | 1.0 % per year |
| Domestic Tariff in Year 0 c/ | 34.33 US\$/MWh ($28.17 \times (1+0.02)^{10} = 34.33$) |
| Domestic Tariff Escalation a/ | 1.0 % per year |
| Increase of Domestic Consumption a/ | 0.0 % per year |
| Price Escalation | F/C: 2.8 % (IBRD's projection as of 1990) L/C: 4.5 % (Thailand 1990-1993 average) |

Note: a/ JICA's assumption or estimate

b/ According to Nam Thuen 1-2, tariff escalation up to 3 %/year is accepted by EGAT.

c/ JICA's estimate 20 kip/kWh at 1994 (1 US\$ = 710 kip) equals to 28.17 US\$/MWh.

18.2 Se Kong No.4計画

(1) Se Kong No.4の基本条件

このプロジェクトは以下の特性を有する。

| | | | |
|---------|-------|---------|---------|
| - 設備出力 | | 443 | MW |
| - 常時出力 | | 406 | MW |
| - 販売電力量 | | 1,616.2 | GWh |
| - 建設費 | | 643.61 | M. US\$ |

詳細はTable 18.2-1に掲げる。

(2) 財務分析の結果と感度分析

a) Case-A

下表に結果を、また Table 18.2-2、Table 18.2-4 および Table 18.2-5 により詳細な情報を示す

| Case | DSC | FIRR | Levelized Financial Generation Cost * |
|--------|------|---------|---------------------------------------|
| Base | 1.61 | 24.55 % | 56.93 \$/MWh |
| Case 1 | 1.46 | 22.75 % | 61.33 \$/MWh |
| Case 2 | 1.47 | 22.86 % | 61.04 \$/MWh |

* プロジェクト寿命 (50年) と10%の割引率を使用

DSCとFIRRはほぼ実行可能な条件、即ち、1.5以上のDSCと6%以上のFIRRを満足しており、プロジェクトはかなりの収益を期待できる。

b) Case-B

下表に結果を、また Table 18.2-3 により詳細な情報を示す。

| Case | DSC | FIRR | Levelized Financial Generation Cost * | FIRR for BOT Period (25 years) |
|--------|------|----------|---------------------------------------|--------------------------------|
| Base | 0.85 | -9.85 % | 78.15 \$/MWh | 8.03 % |
| Case 1 | 0.78 | -19.25 % | 83.79 \$/MWh | 6.88 % |
| Case 2 | 0.78 | -18.26 % | 83.42 \$/MWh | 6.96 % |

* プロジェクト寿命 (50年) と10%の割引率を使用

DSCとFIRRはBOT方法でプロジェクトが進められた場合、財務的に健全な経営が期待できないことを示している。

財務的に健全経営が期待できない幾つかの理由として、以下の点が考えられる。

- Nam Ngumを基にした0年度の輸出料金、52.41\$/MWhはあまりに安いと思われる。10%の割引率で求めた平均化した財務上の発電費用は上記の表に示されているように78.15\$/MWhとなる。
- 発電開始後の輸出料金の上昇率1%も低すぎるとと思われる。タイ国の消費者物価指数（CPI）を参照に設定された4.5%という国内の物価上昇予測は料金の上昇率を上回っている。

下の表は数種のパラメーターを個々に変化させて実行可能な状態を Base Case について求めたものである。表に記載されている数値に着目すると、現実的とは思えない値で、MIHから提示された条件では、BOTの方法についての議論の余地は極めて乏しいと考えられる。

| パラメーター | 数 値 | DSC | FIRR | 発電費用 | FIRR (BOT) |
|---------------|----------------------------|------|--------|---------------|------------|
| 建設費 | 386.16 M. US\$ (40 % 減) | 1.54 | 11.43% | 48.95 \$/MWh | 16.46% |
| 輸出電力料金 上昇率 | 1.0% to 12.0% | 1.56 | 8.78% | 107.38 \$/MWh | 19.05% |
| 利子率 | 満足せず | — | — | — | — |

Table 18.2-1 Basic Conditions for Se Kong No.4

| Items | Value and Conditions | Remarks |
|--|---|---|
| Installed Capacity | 443 MW | |
| Firm Capacity | 406 MW | Peak 8 Hours |
| Generation Energy | 1,816 GWh | Annual Average Energy |
| Plant Available Factor | 97.373 % | |
| Sending-end Energy (Salable Energy) | 1,616.2 GWh | G.Energy x {1- (St.Use + T/D Loss)} |
| Construction Cost: including Associated T/L | 643.61 M.US\$ F/C: 542.22 M.US\$ L/C: 101.39 M.US\$ 1,452.84 \$/kW | subject to price escalation F/C: 2.8 % L/C: 4.5 % |
| Construction Period | 9 years * | including Preparatory Works |

* F/C: 7.42, 3.44, 10.41, 13.04, 11.59, 16.36, 16.98, 13.88, 6.88 (%)

L/C: 11.00, 5.27, 11.87, 14.35, 11.57, 14.46, 14.50, 12.36, 4.62 (%)

Table 18.2-2 Financial Analysis (1/4) Summary of Financial Analysis

| | | | |
|--|------------------------|---------------------|-------------------|
| Site Name | | Se Kong No.4 | |
| Case: - A (Base) | | | |
| Construction Cost | 1,452.84 | US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 443.0 | MW | |
| Generation Energy | 1,816.0 | GWh | |
| Sending-end Energy | 1,616.2 | GWh | |
| Construction Cost | | | |
| Before Price Escalation | 643.61 | M.US\$ | |
| After Price Escalation | 758.66 | M.US\$ | |
| Financial Budget | 941.57 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 75.87 | 0.00 |
| | Loan Amount | 682.79 | 0.00 |
| | IDC | 182.91 | 0.00 |
| | Royalty | | 0.00 |
| | Total | 941.57 | 0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |

| | |
|--|-----------------|
| Financial Indeces | |
| Averaged Debt Service Coverage | 1.61 |
| Financial Internal Rate of Return | 24.55% |
| FIRR Calculation Period | 25 years |

| | | |
|--------------------------------|----|--------------|
| BOT Period | -- | Years |
| FIRR for the BOT Period | | |

| | |
|-----------------------------|--------|
| General Inflation | |
| Foreign | 2.80% |
| Domestic | 4.50% |
| Financial Conditions | |
| Interest Rate for IDC | 6.00% |
| Interest after Operation | 6.00% |
| Repayment Period | 25 yr |
| Graced Period | 9 yr |
| Government Own finance | 10.00% |

| | | |
|-------------------------|----------|---------------|
| Income Statement | | M.US\$ |
| Sales Revenue | 5,460.36 | |
| Operating Expense | 4,219.32 | |
| Financial Expense | 491.64 | |
| Net Income before Tax | 749.40 | |
| Income Tax | (177.96) | |
| Net Income | 571.44 | |

| | | |
|----------------------------|---------|---------------|
| To the Government | | M.US\$ |
| Royalty | 0 | |
| Income Tax | 177.964 | |
| Interest Payment to Equity | | |
| Net Income | 177.964 | |

| | |
|---|---------------|
| Financial Generation Cost in | 56.93 |
| Year 0 for the project life time | |
| 10.0% Discount Rate | \$/MWh |

Table 18.2-2 Financial Analysis (2/4) Construction Disbursement and Loan Amount

| Dam Site: | Se Kong No.4 | | Equity Proportions | | Price Escalation per annum | | Finance Condition | | Total Construction Cost (M.US\$) | | | |
|-------------------|--------------|-----------|--------------------|---------|----------------------------|-------------|-------------------|---------------|----------------------------------|---------|---------|--------|
| | Installed | 443.00 MW | Lao PDR | Private | F/C Portion | L/C Portion | IDC | Interest Rate | Own Finance | LAO PDR | PRV SCT | Total |
| Generation Energy | 1,816.0 GWh | | | | 100.0% | 0.0% | 2.8% | 6.00 % | 682.79 | 0.00 | 75.87 | 75.87 |
| Salable Energy | 1,616.2 GWh | | | | 90.0% | | 4.5% | 25 years | 182.91 | 0.00 | 182.91 | 182.91 |
| Project Cost | | | | | | | | 9 years | 941.57 | 0.00 | 941.57 | 941.57 |
| F/C | | | | | | | | 10.00 % | Equity / Royalty Fee | 0.00 | 0.00 | - |
| L/C | | | | | | | | | | | | |
| Total | | | | | | | | | | | | |

| Year | Disbursement before Escalation | | Price Index | | Disbursement after Escalation | | Total Disburse | Finance Proportion | | Own Finance Portion | | Loan Portion | | Loan Cumulative | | IDC | | Royalty Fee |
|------|--------------------------------|----------------|-------------|---------|-------------------------------|----------------|----------------|--------------------|----------------|---------------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|-------------|
| | for F/C M.US\$ | for L/C M.US\$ | for F/C | for L/C | for F/C M.US\$ | for L/C M.US\$ | | Lao PDR M.US\$ | PRV.SCT M.US\$ | Lao PDR M.US\$ | PRV.SCT M.US\$ | Lao PDR M.US\$ | PRV.SCT M.US\$ | Lao PDR M.US\$ | PRV.SCT M.US\$ | Lao PDR M.US\$ | PRV.SCT M.US\$ | |
| -10 | 0.00 | 0.00 | 1.0000 | 1.0000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 40.23 | 11.15 | 1.0280 | 1.0450 | 41.36 | 11.65 | 53.01 | 53.01 | 0.00 | 5.30 | 0.00 | 47.71 | 0.00 | 47.71 | 0.00 | 2.86 | 0.00 | 0.00 |
| -8 | 18.65 | 5.34 | 1.0568 | 1.0920 | 19.71 | 5.83 | 25.54 | 25.54 | 0.00 | 2.55 | 0.00 | 22.99 | 0.00 | 70.70 | 0.00 | 4.24 | 0.00 | 0.00 |
| -7 | 56.45 | 12.03 | 1.0864 | 1.1412 | 61.33 | 13.73 | 75.06 | 75.06 | 0.00 | 7.51 | 0.00 | 67.55 | 0.00 | 138.25 | 0.00 | 8.30 | 0.00 | 0.00 |
| -6 | 70.71 | 14.55 | 1.1168 | 1.1925 | 78.97 | 17.35 | 96.32 | 96.32 | 0.00 | 9.63 | 0.00 | 86.69 | 0.00 | 224.94 | 0.00 | 13.50 | 0.00 | 0.00 |
| -5 | 62.64 | 11.73 | 1.1481 | 1.2462 | 72.15 | 14.62 | 86.77 | 86.77 | 0.00 | 8.68 | 0.00 | 78.09 | 0.00 | 303.03 | 0.00 | 18.18 | 0.00 | 0.00 |
| -4 | 88.71 | 14.86 | 1.1802 | 1.3023 | 104.70 | 19.09 | 123.79 | 123.79 | 0.00 | 12.38 | 0.00 | 111.41 | 0.00 | 414.44 | 0.00 | 24.87 | 0.00 | 0.00 |
| -3 | 92.07 | 14.70 | 1.2133 | 1.3609 | 111.71 | 20.01 | 131.72 | 131.72 | 0.00 | 13.17 | 0.00 | 118.55 | 0.00 | 532.99 | 0.00 | 31.98 | 0.00 | 0.00 |
| -2 | 75.26 | 12.53 | 1.2472 | 1.4221 | 93.86 | 17.82 | 111.68 | 111.68 | 0.00 | 11.17 | 0.00 | 100.51 | 0.00 | 633.50 | 0.00 | 38.01 | 0.00 | 0.00 |
| -1 | 37.30 | 4.68 | 1.2821 | 1.4861 | 47.82 | 6.95 | 54.77 | 54.77 | 0.00 | 5.48 | 0.00 | 49.29 | 0.00 | 682.79 | 0.00 | 40.97 | 0.00 | 0.00 |
| 0 | 0.00 | 0.00 | 1.3180 | 1.5530 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sum | 542.22 | 101.37 | | | 631.61 | 127.05 | 758.66 | 758.66 | 0.00 | 75.87 | 0.00 | 682.79 | 0.00 | 182.91 | 0.00 | 0.00 | 0.00 | 0.00 |

Table 18.2-2 Financial Analysis (3/4) Income Statement

| Case: - A (Base) | | Se Kong No.4 Dam Site: | | | | | | | | | | | | | | | | | | | | |
|--|------------------------|------------------------|-----------------|-------------------------|------------------|--------------------|----------------------------|------------------------|-------------------|-------------------------------------|-----------------------------|-----------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|-------------------------------|-----------------------------------|-------------------------|--------------------------------------|---------------------------------------|--------------------------|--------------------------------------|
| | | Exporting Ratio | | Exp. Price (\$/MWh) | | O/M cost | | 1.5% of T. Disb | | Income Tax | | 20.0% | | Initial F.A. (M.US\$) | | | | | | | | |
| | | Domestic Use | | Dom. Price (\$/MWh) | | Fuel Cost | | Royalty from Operation | | Private | | Dividend | | Life Time (Years) | | | | | | | | |
| | | Increase of D.Use | | Exp. Escalation | | 1.00% | | P. Repay. | | Dividend | | F/C Escalation | | 2.8% | | | | | | | | |
| | | Financial Condition | | Dom. Escalation | | 1.00% | | P. Repay. | | Dividend | | F/C Escalation | | 2.8% | | | | | | | | |
| | | Interest Rate (%) | | 6 | | 1.00% | | P. Repay. | | Dividend | | F/C Escalation | | 2.8% | | | | | | | | |
| | | Repayment P. (Yr) | | 25 | | 1.00% | | P. Repay. | | Dividend | | F/C Escalation | | 2.8% | | | | | | | | |
| | | Construction Cost | | 643.61 M.US\$ | | Repayment P. (Yr) | | 25 | | Dividend | | F/C Escalation | | 2.8% | | | | | | | | |
| | | Equity Escalation | | 3.1% | | Equity Escalation | | 3.1% | | Equity Escalation | | 3.1% | | 3.1% | | | | | | | | |
| Year | Saleable Energy GWh | Export GWh | Domestic GWh | Selling Price \$/MWh | Export \$/MWh | Domestic \$/MWh | Sales Revenue M.US\$ | O/M Cost M.US\$ | Royalty M.US\$ | Y.Start Fixed Asset M.US\$ | Depreci- ation M.US\$ | Y.End Fixed Asset M.US\$ | Net Operation Income M.US\$ | Principal Repay- ment M.US\$ | Cum. of P.Repay- ment M.US\$ | Interest Payment M.US\$ | Income before Tax M.US\$ | Income Tax M.US\$ | Net Income after Tax M.US\$ | Current Asset in Cash M.US\$ | Debt Service Ratio | Export Price DSC=1.5 \$/MWh |
| 0 | 1616.2 | 0.0 | 52.41 | 34.33 | 84.71 | 11.38 | 84.71 | 11.38 | 0.00 | 941.57 | 18.89 | 922.74 | 54.50 | 27.31 | 27.31 | 39.33 | 15.17 | 15.17 | 15.17 | 73.33 | 1.10 | 68.89 |
| 1 | 1616.2 | 0.0 | 52.99 | 34.67 | 85.55 | 11.89 | 85.55 | 11.89 | 0.00 | 951.34 | 19.42 | 931.82 | 54.24 | 27.31 | 54.62 | 37.69 | 16.55 | 16.55 | 16.55 | 73.66 | 1.13 | 67.68 |
| 2 | 1616.2 | 0.0 | 53.48 | 35.02 | 86.40 | 12.43 | 86.40 | 12.43 | 0.00 | 960.81 | 20.02 | 940.79 | 53.96 | 27.31 | 81.93 | 36.05 | 17.90 | 17.90 | 17.90 | 73.97 | 1.17 | 66.50 |
| 3 | 1616.2 | 0.0 | 54.00 | 35.37 | 87.27 | 12.98 | 87.27 | 12.98 | 0.00 | 969.95 | 20.64 | 949.31 | 53.64 | 27.31 | 106.24 | 34.41 | 19.23 | 19.23 | 19.23 | 74.28 | 1.20 | 65.32 |
| 4 | 1616.2 | 0.0 | 54.54 | 35.72 | 88.15 | 13.57 | 88.15 | 13.57 | 0.00 | 978.74 | 21.28 | 957.46 | 53.30 | 27.31 | 136.55 | 32.77 | 20.53 | 20.53 | 20.53 | 74.56 | 1.24 | 64.16 |
| 5 | 1616.2 | 0.0 | 55.08 | 36.08 | 89.02 | 14.18 | 89.02 | 14.18 | 0.00 | 987.14 | 21.94 | 965.20 | 52.90 | 27.31 | 163.86 | 31.14 | 21.76 | 4.35 | 17.41 | 74.84 | 1.28 | 63.02 |
| 6 | 1616.2 | 0.0 | 55.63 | 36.44 | 89.91 | 14.82 | 89.91 | 14.82 | 0.00 | 995.12 | 22.62 | 972.50 | 52.47 | 27.31 | 191.17 | 29.50 | 22.97 | 4.59 | 18.38 | 75.09 | 1.32 | 61.90 |
| 7 | 1616.2 | 0.0 | 56.19 | 36.81 | 90.81 | 15.49 | 90.81 | 15.49 | 0.00 | 1002.65 | 23.32 | 979.33 | 52.00 | 27.31 | 218.48 | 27.86 | 24.14 | 4.83 | 19.31 | 75.32 | 1.37 | 60.79 |
| 8 | 1616.2 | 0.0 | 56.75 | 37.18 | 91.72 | 16.18 | 91.72 | 16.18 | 0.00 | 1009.69 | 24.04 | 985.65 | 51.50 | 27.31 | 245.79 | 26.22 | 25.28 | 5.06 | 20.22 | 75.54 | 1.41 | 59.69 |
| 9 | 1616.2 | 0.0 | 57.32 | 37.55 | 92.64 | 16.91 | 92.64 | 16.91 | 0.00 | 1016.21 | 24.79 | 991.42 | 50.94 | 27.31 | 273.10 | 24.58 | 26.36 | 5.27 | 21.09 | 75.73 | 1.46 | 58.62 |
| 10 | 1616.2 | 0.0 | 57.89 | 37.92 | 93.56 | 17.67 | 93.56 | 17.67 | 0.00 | 1022.15 | 25.55 | 996.60 | 50.34 | 27.31 | 300.41 | 22.94 | 27.40 | 5.48 | 21.92 | 75.89 | 1.51 | 57.57 |
| 11 | 1616.2 | 0.0 | 58.47 | 38.30 | 94.50 | 18.47 | 94.50 | 18.47 | 0.00 | 1027.49 | 26.35 | 1001.14 | 49.68 | 27.31 | 327.72 | 21.30 | 28.38 | 5.68 | 22.70 | 76.03 | 1.56 | 56.54 |
| 12 | 1616.2 | 0.0 | 59.06 | 38.68 | 95.45 | 19.30 | 95.45 | 19.30 | 0.00 | 1032.18 | 27.16 | 1005.02 | 48.93 | 27.31 | 355.03 | 19.67 | 29.32 | 5.86 | 23.46 | 76.15 | 1.62 | 55.54 |
| 13 | 1616.2 | 0.0 | 59.65 | 39.07 | 96.41 | 20.17 | 96.41 | 20.17 | 0.00 | 1036.18 | 28.00 | 1008.18 | 48.24 | 27.31 | 382.34 | 18.03 | 30.21 | 6.04 | 24.17 | 76.24 | 1.68 | 54.56 |
| 14 | 1616.2 | 0.0 | 60.25 | 39.46 | 97.38 | 21.07 | 97.38 | 21.07 | 0.00 | 1039.43 | 28.87 | 1010.56 | 47.44 | 27.31 | 409.65 | 16.39 | 31.05 | 6.21 | 24.84 | 76.31 | 1.75 | 53.59 |
| 15 | 1616.2 | 0.0 | 60.85 | 39.86 | 98.35 | 22.02 | 98.35 | 22.02 | 0.00 | 1041.89 | 29.77 | 1012.12 | 46.56 | 27.31 | 436.96 | 14.75 | 31.81 | 6.36 | 25.45 | 76.33 | 1.81 | 52.66 |
| 16 | 1616.2 | 0.0 | 61.46 | 40.26 | 99.33 | 23.01 | 99.33 | 23.01 | 0.00 | 1043.50 | 30.69 | 1012.81 | 45.63 | 27.31 | 464.27 | 13.11 | 32.52 | 6.50 | 26.02 | 76.32 | 1.89 | 51.75 |
| 17 | 1616.2 | 0.0 | 62.07 | 40.66 | 100.32 | 24.05 | 100.32 | 24.05 | 0.00 | 1044.21 | 31.64 | 1012.57 | 44.63 | 27.31 | 491.58 | 11.47 | 33.18 | 6.63 | 26.53 | 76.27 | 1.97 | 50.87 |
| 18 | 1616.2 | 0.0 | 62.69 | 41.06 | 101.32 | 25.13 | 101.32 | 25.13 | 0.00 | 1044.96 | 32.62 | 1011.34 | 43.57 | 27.31 | 518.89 | 9.83 | 33.74 | 6.75 | 26.99 | 76.19 | 2.05 | 50.02 |
| 19 | 1616.2 | 0.0 | 63.32 | 41.47 | 102.34 | 26.26 | 102.34 | 26.26 | 0.00 | 1044.96 | 33.64 | 1009.05 | 42.44 | 27.31 | 546.20 | 8.20 | 34.24 | 6.85 | 27.39 | 76.08 | 2.14 | 49.20 |
| 20 | 1616.2 | 0.0 | 63.95 | 41.89 | 103.36 | 27.44 | 103.36 | 27.44 | 0.00 | 1044.33 | 34.68 | 1005.65 | 41.24 | 27.31 | 573.51 | 6.56 | 34.68 | 6.94 | 27.74 | 75.92 | 2.24 | 48.41 |
| 21 | 1616.2 | 0.0 | 64.59 | 42.31 | 104.39 | 28.68 | 104.39 | 28.68 | 0.00 | 1036.83 | 35.75 | 1001.08 | 39.96 | 27.31 | 600.82 | 4.92 | 35.04 | 7.01 | 28.03 | 75.71 | 2.35 | 47.66 |
| 22 | 1616.2 | 0.0 | 65.23 | 42.73 | 105.42 | 29.97 | 105.42 | 29.97 | 0.00 | 1032.11 | 36.86 | 995.25 | 38.59 | 27.31 | 628.13 | 3.28 | 35.31 | 7.06 | 28.25 | 75.45 | 2.47 | 46.93 |
| 23 | 1616.2 | 0.0 | 65.89 | 43.16 | 106.49 | 31.32 | 106.49 | 31.32 | 0.00 | 1026.10 | 38.00 | 988.10 | 37.17 | 27.31 | 655.44 | 1.64 | 35.53 | 7.11 | 28.42 | 75.17 | 2.60 | 46.25 |
| 24 | 1616.2 | 0.0 | 66.54 | 43.59 | 107.54 | 32.73 | 107.54 | 32.73 | 0.00 | 1018.73 | 39.18 | 979.55 | 35.63 | 27.31 | 682.75 | 0.00 | 35.63 | 7.13 | 28.50 | 74.81 | 2.74 | 45.60 |
| Sum | | | | | 5460.36 | 2031.32 | | | 0.00 | | 2188 | | 1241.04 | 682.75 | | 491.64 | 749.4 | 177.964 | 571.436 | 3429.04 | | 1.61 |
| Note: Net Operation Income = Sales Revenue - O/M Cost - Royalty - Depreciation | | | | | | | | | | | | | | | | | | | | | | |
| Income before Tax = Net Operation Income - Interest Payment | | | | | | | | | | | | | | | | | | | | | | |
| Current Asset in Cash = Net Operation Income + Depreciation - Debt Service Ratio = Current Asset in Cash / (Principal Repay. + Interest Payment) | | | | | | | | | | | | | | | | | | | | | | |
| The year 25 onwards are not printed in the above table intentionally. | | | | | | | | | | | | | | | | | | | | | | |
| Average DSC for Repayment Period | | | | | | | | | | | | | | | | | | | | | | |

Table 18.2-2 Financial Analysis (4/4) Financial Internal Rate of Return

Case: - A (Base)

| | | | | | | | | | |
|-------------------|---------------|-----------------------|--------|----------------------------------|---------|---------|--------|--------------------|--------|
| Dam Site: | Se Kong No.4 | Equity Proportions | | Total construction Cost (M.US\$) | | | | Discount Rate | 10.0% |
| Install Capacity | 443 MW | Lao PDR | 100.0% | Finance Items | LAO PDR | PRV SCT | Total | Discounted to Year | 0 |
| Generation Energy | 1816 GWh | Private | 0.0% | Own Finance | 75.87 | 0 | 75.87 | B(enefit) | 774.48 |
| | | Royalty from Operatio | 0.0% | Principal Loan | 682.79 | 0.00 | 682.79 | C(cost) | 391.53 |
| | | Lao PDR | 100.0% | IDC | 182.91 | 0 | 182.91 | B/C | 1.98 |
| Construction Cost | 643.61 M.US\$ | Private | 0.0% | Total | 941.57 | 0.00 | 941.57 | FIRR for the Year | 24 |
| | | | | Equity / Royalty Fee | 0 | 0 | 0 | FIRR | 24.55% |

| Year | Own Finance | IDC | Princpal Repay. | Interest Payment | Royalty | Total Cost | Net Income after Tax | Depreciation + Interest | Total Income | NPV Convert Index | Net Present Value | | NPV Cumulative | | Balance B - C before Discount |
|------|-------------|--------|-----------------|------------------|---------|------------|----------------------|-------------------------|--------------|-------------------|-------------------|---------|----------------|-------------|-------------------------------|
| | | | | | | | | | | | Cost | Benefit | Cost (C) | Benefit (B) | |
| -10 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.5937 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 5.30 | 2.86 | | | 0.00 | 5.30 | | | 0.00 | 2.3579 | 12.50 | 0.00 | 12.50 | 0.00 | -5.30 |
| -8 | 2.55 | 4.24 | | | 0.00 | 2.55 | | | 0.00 | 2.1436 | 5.47 | 0.00 | 17.97 | 0.00 | -2.55 |
| -7 | 7.51 | 8.30 | | | 0.00 | 7.51 | | | 0.00 | 1.9487 | 14.63 | 0.00 | 32.60 | 0.00 | -7.51 |
| -6 | 9.63 | 13.50 | | | 0.00 | 9.63 | | | 0.00 | 1.7716 | 17.06 | 0.00 | 49.66 | 0.00 | -9.63 |
| -5 | 8.68 | 18.18 | | | 0.00 | 8.68 | | | 0.00 | 1.6105 | 13.98 | 0.00 | 63.64 | 0.00 | -8.68 |
| -4 | 12.38 | 24.87 | | | 0.00 | 12.38 | | | 0.00 | 1.4641 | 18.13 | 0.00 | 81.77 | 0.00 | -12.38 |
| -3 | 13.17 | 31.98 | | | 0.00 | 13.17 | | | 0.00 | 1.3310 | 17.53 | 0.00 | 99.30 | 0.00 | -13.17 |
| -2 | 11.17 | 38.01 | | | 0.00 | 11.17 | | | 0.00 | 1.2100 | 13.52 | 0.00 | 112.82 | 0.00 | -11.17 |
| -1 | 5.48 | 40.97 | | | 0.00 | 5.48 | | | 0.00 | 1.1000 | 6.03 | 0.00 | 118.85 | 0.00 | -5.48 |
| 0 | | | 27.31 | 39.33 | | 27.31 | 15.17 | 58.16 | 73.33 | 1.0000 | 27.31 | 73.33 | 146.16 | 73.33 | 46.02 |
| 1 | | | 27.31 | 37.69 | | 27.31 | 16.55 | 57.11 | 73.66 | 0.9091 | 24.83 | 66.96 | 170.99 | 140.29 | 46.35 |
| 2 | | | 27.31 | 36.05 | | 27.31 | 17.90 | 56.07 | 73.97 | 0.8264 | 22.57 | 61.13 | 193.56 | 201.42 | 46.66 |
| 3 | | | 27.31 | 34.41 | | 27.31 | 19.23 | 55.05 | 74.28 | 0.7513 | 20.52 | 55.81 | 214.08 | 257.23 | 46.97 |
| 4 | | | 27.31 | 32.77 | | 27.31 | 20.53 | 54.05 | 74.58 | 0.6830 | 18.65 | 50.94 | 232.73 | 308.17 | 47.27 |
| 5 | | | 27.31 | 31.14 | | 27.31 | 17.41 | 53.08 | 70.49 | 0.6209 | 16.96 | 43.77 | 249.69 | 351.94 | 43.18 |
| 6 | | | 27.31 | 29.50 | | 27.31 | 18.38 | 52.12 | 70.50 | 0.5645 | 15.42 | 39.80 | 265.11 | 391.74 | 43.19 |
| 7 | | | 27.31 | 27.86 | | 27.31 | 19.31 | 51.18 | 70.49 | 0.5132 | 14.02 | 36.18 | 279.13 | 427.92 | 43.18 |
| 8 | | | 27.31 | 26.22 | | 27.31 | 20.22 | 50.26 | 70.48 | 0.4665 | 12.74 | 32.88 | 291.87 | 460.80 | 43.17 |
| 9 | | | 27.31 | 24.58 | | 27.31 | 21.09 | 49.37 | 70.46 | 0.4241 | 11.58 | 29.88 | 303.45 | 490.68 | 43.15 |
| 10 | | | 27.31 | 22.94 | | 27.31 | 21.92 | 48.49 | 70.41 | 0.3855 | 10.53 | 27.14 | 313.96 | 517.82 | 43.10 |
| 11 | | | 27.31 | 21.30 | | 27.31 | 22.70 | 47.65 | 70.35 | 0.3505 | 9.57 | 24.66 | 323.55 | 542.48 | 43.04 |
| 12 | | | 27.31 | 19.67 | | 27.31 | 23.46 | 46.83 | 70.29 | 0.3186 | 8.70 | 22.39 | 332.26 | 564.87 | 42.98 |
| 13 | | | 27.31 | 18.03 | | 27.31 | 24.17 | 46.03 | 70.20 | 0.2897 | 7.91 | 20.34 | 340.16 | 585.21 | 42.89 |
| 14 | | | 27.31 | 16.39 | | 27.31 | 24.84 | 45.26 | 70.10 | 0.2633 | 7.19 | 18.46 | 347.35 | 603.67 | 42.79 |
| 15 | | | 27.31 | 14.75 | | 27.31 | 25.45 | 44.52 | 69.97 | 0.2394 | 6.54 | 16.75 | 353.89 | 620.42 | 42.66 |
| 16 | | | 27.31 | 13.11 | | 27.31 | 26.02 | 43.80 | 69.82 | 0.2176 | 5.94 | 15.19 | 359.83 | 635.61 | 42.51 |
| 17 | | | 27.31 | 11.47 | | 27.31 | 26.53 | 43.11 | 69.64 | 0.1978 | 5.40 | 13.77 | 365.23 | 649.38 | 42.33 |
| 18 | | | 27.31 | 9.83 | | 27.31 | 26.99 | 42.45 | 69.44 | 0.1799 | 4.91 | 12.49 | 370.14 | 661.87 | 42.13 |
| 19 | | | 27.31 | 8.20 | | 27.31 | 27.39 | 41.84 | 69.23 | 0.1635 | 4.47 | 11.32 | 374.61 | 673.19 | 41.92 |
| 20 | | | 27.31 | 6.56 | | 27.31 | 27.74 | 41.24 | 68.98 | 0.1486 | 4.06 | 10.25 | 378.67 | 683.44 | 41.67 |
| 21 | | | 27.31 | 4.92 | | 27.31 | 28.03 | 40.67 | 68.70 | 0.1351 | 3.69 | 9.28 | 382.36 | 692.72 | 41.39 |
| 22 | | | 27.31 | 3.28 | | 27.31 | 28.25 | 40.14 | 68.39 | 0.1228 | 3.35 | 8.40 | 385.71 | 701.12 | 41.08 |
| 23 | | | 27.31 | 1.64 | | 27.31 | 28.42 | 39.64 | 68.06 | 0.1117 | 3.05 | 7.60 | 388.76 | 708.72 | 40.75 |
| 24 | | | 27.31 | 0.00 | | 27.31 | 28.50 | 39.18 | 67.68 | 0.1015 | 2.77 | 6.87 | 391.53 | 715.59 | 40.37 |
| 25 | | | | | 0.00 | 27.22 | 27.22 | 40.40 | 67.62 | 0.0923 | 0.00 | 6.24 | 391.53 | 721.83 | 67.62 |
| 26 | | | | | 0.00 | 25.86 | 25.86 | 41.65 | 67.51 | 0.0839 | 0.00 | 5.66 | 391.53 | 727.49 | 67.51 |
| 27 | | | | | 0.00 | 24.42 | 24.42 | 42.94 | 67.36 | 0.0763 | 0.00 | 5.14 | 391.53 | 732.63 | 67.36 |
| 28 | | | | | 0.00 | 22.90 | 22.90 | 44.27 | 67.17 | 0.0693 | 0.00 | 4.65 | 391.53 | 737.28 | 67.17 |
| 29 | | | | | 0.00 | 21.29 | 21.29 | 45.64 | 66.93 | 0.0630 | 0.00 | 4.22 | 391.53 | 741.50 | 66.93 |
| 30 | | | | | 0.00 | 19.59 | 19.59 | 47.06 | 66.65 | 0.0573 | 0.00 | 3.82 | 391.53 | 745.32 | 66.65 |
| 31 | | | | | 0.00 | 17.81 | 17.81 | 48.52 | 66.33 | 0.0521 | 0.00 | 3.46 | 391.53 | 748.78 | 66.33 |
| 32 | | | | | 0.00 | 15.92 | 15.92 | 50.02 | 65.94 | 0.0474 | 0.00 | 3.13 | 391.53 | 751.91 | 65.94 |
| 33 | | | | | 0.00 | 13.94 | 13.94 | 51.57 | 65.51 | 0.0431 | 0.00 | 2.82 | 391.53 | 754.73 | 65.51 |
| 34 | | | | | 0.00 | 11.85 | 11.85 | 53.17 | 65.02 | 0.0391 | 0.00 | 2.54 | 391.53 | 757.27 | 65.02 |
| 35 | | | | | 0.00 | 9.65 | 9.65 | 54.82 | 64.47 | 0.0356 | 0.00 | 2.30 | 391.53 | 759.57 | 64.47 |
| 36 | | | | | 0.00 | 7.34 | 7.34 | 56.52 | 63.86 | 0.0323 | 0.00 | 2.06 | 391.53 | 761.63 | 63.86 |
| 37 | | | | | 0.00 | 4.91 | 4.91 | 58.27 | 63.18 | 0.0294 | 0.00 | 1.86 | 391.53 | 763.49 | 63.18 |
| 38 | | | | | 0.00 | 2.34 | 2.34 | 60.08 | 62.42 | 0.0267 | 0.00 | 1.67 | 391.53 | 765.16 | 62.42 |
| 39 | | | | | 0.00 | -0.41 | -0.41 | 61.94 | 61.53 | 0.0243 | 0.00 | 1.50 | 391.53 | 766.66 | 61.53 |
| 40 | | | | | 0.00 | -3.94 | -3.94 | 63.86 | 59.92 | 0.0221 | 0.00 | 1.32 | 391.53 | 767.98 | 59.92 |
| 41 | | | | | 0.00 | -7.64 | -7.64 | 65.84 | 58.20 | 0.0201 | 0.00 | 1.17 | 391.53 | 769.15 | 58.20 |
| 42 | | | | | 0.00 | -11.51 | -11.51 | 67.88 | 56.37 | 0.0183 | 0.00 | 1.03 | 391.53 | 770.18 | 56.37 |
| 43 | | | | | 0.00 | -15.58 | -15.58 | 69.99 | 54.41 | 0.0166 | 0.00 | 0.90 | 391.53 | 771.08 | 54.41 |
| 44 | | | | | 0.00 | -19.85 | -19.85 | 72.16 | 52.31 | 0.0151 | 0.00 | 0.79 | 391.53 | 771.87 | 52.31 |
| 45 | | | | | 0.00 | -24.33 | -24.33 | 74.39 | 50.06 | 0.0137 | 0.00 | 0.69 | 391.53 | 772.56 | 50.06 |
| 46 | | | | | 0.00 | -29.03 | -29.03 | 76.70 | 47.67 | 0.0125 | 0.00 | 0.60 | 391.53 | 773.16 | 47.67 |
| 47 | | | | | 0.00 | -33.94 | -33.94 | 79.07 | 45.13 | 0.0113 | 0.00 | 0.51 | 391.53 | 773.67 | 45.13 |
| 48 | | | | | 0.00 | -39.09 | -39.09 | 81.53 | 42.44 | 0.0103 | 0.00 | 0.44 | 391.53 | 774.11 | 42.44 |
| 49 | | | | | 0.00 | -44.48 | -44.48 | 84.05 | 39.57 | 0.0094 | 0.00 | 0.37 | 391.53 | 774.48 | 39.57 |
| Sum | 75.87 | 182.91 | 682.75 | 491.64 | 0.00 | 758.62 | 571.44 | 2679.64 | 3251.08 | | 391.53 | 774.48 | | | 2492.46 |

Note: Financial Generation Cost (FGC) is calculated as below.

$$FGC = NPV(\text{Own Finance} + IDC + \text{Royalty} + O/M \text{ Cost} + \text{Prnc Repayment} + \text{Interest Payment}) / NPV(\text{Generation Energy})$$

Total Cost does not include IDC and Interest Payment for the purpose of FIRR calculation.

Financial Generation Cost in Year 0 at 10.0% discount rate

56.93 \$/MWh

Table 18.2-3 Financial Analysis (1/4) Summary of Financial Analysis

| | | | |
|--|-------------------------|---------------------|-------------------|
| Site Name | | Se Kong No.4 | |
| Case: - B (Base) | | | |
| Construction Cost | 1,452.84 US\$/kW | | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 443.0 MW | | |
| Generation Energy | 1,816.0 GWh | | |
| Sending-end Energy | 1,616.2 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 643.61 M.US\$ | | |
| After Price Escalation | 758.66 M.US\$ | | |
| Financial Budget | 995.74 M.US\$ | | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 56.92 | 170.70 |
| | Loan Amount | 132.75 | 398.29 |
| | IDC | 59.27 | 177.81 |
| | Royalty | - | 0.00 |
| | Total | 248.94 | 746.80 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indeces | | | |
| Averaged Debt Service Coverage | | 0.85 | |
| Financial Internal Rate of Return | | -9.85% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | | |
| BOT Period | | 25 Years | |
| FIRR for the BOT Period | | 8.03% | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 10.00% | |
| Interest after Operation | | 10.00% | |
| Repayment Period | | 10 yr | |
| Graced Period | | 9 yr | |
| Government Own finance | | 0.00% | |
| Income Statement | | | |
| | | | M.US\$ |
| Sales Revenue | | 5,460.36 | |
| Operating Expense | | 4,891.20 | |
| Financial Expense | | 238.95 | |
| Net Income before Tax | | 330.21 | |
| Income Tax | | (149.45) | |
| Net Income | | 180.76 | |
| To the Government | | | |
| | | | M.US\$ |
| Royalty | | 546.03 | |
| Income Tax | | 149.446 | |
| Interest Payment to Equity | | - | |
| Net Income | | 695.476 | |
| Financial Generation Cost in | | | |
| Year 0 for the project life time | | 78.15 | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.2-3 Financial Analysis (2/4) Construction Disbursement and Loan Amount

| Dam Site: | Se Kong No.4 | | Equity Proportions | | Price Escalation per annum | | Finance Condition | | Total Construction Cost (M.US\$) | | |
|-------------------|----------------|-----------|--------------------------|---------|----------------------------|--------|-------------------|----------|----------------------------------|---------|--------|
| | Installed | 443.00 MW | Lao PDR | Private | F/C Portion | 2.8% | IDC | 10.00 % | LAO PDR | PRV SCT | Total |
| Generation Energy | 1,816.0 GWh | | | | L/C Portion | 4.5% | Interest Rate | 10.00 % | 56.92 | 170.70 | 227.62 |
| Salable Energy | 1,616.2 GWh | | Debt/Equity Ratio | | | | Repayment Period | 10 years | 132.75 | 398.29 | 531.04 |
| Project Cost | 1,452.84 \$/Kw | | Debt | | | | Graced Period | 9 years | 59.27 | 177.81 | 237.08 |
| F/C | 542.22 M.US\$ | | Equity | | Exporting Ratio | 100.0% | LAO Own Finance | 0.00 % | 248.94 | 746.80 | 995.74 |
| L/C | 101.39 M.US\$ | | Royalty for Construction | | Exp. Price (\$/MWh) | 52.410 | | | 56.92 | 0.00 | - |
| Total | 643.61 M.US\$ | | Royalty from Operation | | Dom. Price (\$/MWh) | 34.330 | | | | | |

| Year | Disbursement before Escalation | | Price Index | | Disbursement after Escalation | | Total Disburse | | Finance Proportion | | Own Finance Portion | | Loan Portion | | Loan Cumulative | | IDC | | Royalty Fee | | | |
|------|--------------------------------|---------|-------------|---------|-------------------------------|---------|----------------|--------|--------------------|---------|---------------------|---------|--------------|---------|-----------------|---------|---------|---------|-------------|--------|------|--|
| | for F/C | for L/C | for F/C | for L/C | for F/C | for L/C | M.US\$ | M.US\$ | LAO PDR | PRV.SCT | LAO PDR | PRV.SCT | LAO PDR | PRV.SCT | LAO PDR | PRV.SCT | LAO PDR | PRV.SCT | M.US\$ | M.US\$ | | |
| | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | | |
| -10 | 0.00 | 0.00 | 1.0000 | 1.0000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -9 | 40.23 | 11.15 | 1.0280 | 1.0450 | 41.36 | 11.65 | 53.01 | 39.76 | 0.00 | 3.98 | 11.93 | 9.27 | 27.83 | 9.27 | 27.83 | 0.93 | 0.93 | 2.78 | 0.00 | 0.00 | 0.00 | |
| -8 | 18.65 | 5.34 | 1.0568 | 1.0920 | 19.71 | 5.83 | 25.54 | 19.15 | 0.00 | 1.92 | 5.75 | 4.47 | 13.40 | 13.74 | 41.23 | 1.37 | 1.37 | 4.12 | 0.00 | 0.00 | 0.00 | |
| -7 | 56.45 | 12.03 | 1.0864 | 1.1412 | 61.33 | 13.73 | 75.06 | 56.29 | 0.00 | 5.63 | 16.89 | 13.14 | 39.40 | 26.88 | 80.63 | 2.69 | 2.69 | 8.06 | 0.00 | 0.00 | 0.00 | |
| -6 | 70.71 | 14.55 | 1.1168 | 1.1925 | 78.97 | 17.35 | 96.32 | 72.24 | 0.00 | 7.22 | 21.67 | 16.86 | 50.57 | 43.74 | 131.20 | 4.37 | 4.37 | 13.12 | 0.00 | 0.00 | 0.00 | |
| -5 | 62.84 | 11.73 | 1.1481 | 1.2462 | 72.15 | 14.62 | 86.77 | 65.08 | 0.00 | 6.51 | 19.52 | 15.18 | 45.56 | 58.92 | 176.76 | 5.89 | 5.89 | 17.68 | 0.00 | 0.00 | 0.00 | |
| -4 | 88.71 | 14.66 | 1.1802 | 1.3023 | 104.70 | 19.09 | 123.79 | 92.84 | 0.00 | 9.29 | 27.65 | 21.66 | 64.99 | 80.58 | 241.75 | 8.06 | 8.06 | 24.18 | 0.00 | 0.00 | 0.00 | |
| -3 | 92.07 | 14.70 | 1.2133 | 1.3609 | 111.71 | 20.01 | 131.72 | 98.79 | 0.00 | 9.88 | 29.64 | 23.05 | 69.15 | 103.63 | 310.90 | 10.36 | 10.36 | 31.09 | 0.00 | 0.00 | 0.00 | |
| -2 | 75.26 | 12.53 | 1.2472 | 1.4221 | 93.86 | 17.82 | 111.68 | 83.76 | 0.00 | 8.38 | 25.13 | 19.54 | 58.63 | 123.17 | 369.53 | 12.32 | 12.32 | 36.95 | 0.00 | 0.00 | 0.00 | |
| -1 | 37.30 | 4.88 | 1.2821 | 1.4861 | 47.82 | 6.95 | 54.77 | 41.08 | 0.00 | 4.11 | 12.32 | 9.58 | 28.76 | 132.75 | 398.29 | 13.28 | 13.28 | 39.83 | 0.00 | 0.00 | 0.00 | |
| 0 | 0.00 | 0.00 | 1.3180 | 1.5530 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Sum | 542.22 | 101.37 | | | 631.61 | 127.05 | 758.66 | 568.99 | 189.67 | 56.92 | 170.70 | 132.75 | 398.29 | 59.27 | 177.81 | | | | | | | |

Table 18.2-3 Financial Analysis (3/4) Income Statement

| Year | Selling Revenue | | Sales Revenue | O/M Cost | Royalty | Y.Start Fixed Asset | Depreciation | Y.End Fixed Asset | Net Operation Income | Principal Repayment | Cum. of P. Repayment | Interest Payment | Income before Tax | Income Tax | Net Income after Tax | Current Asset in Cash | Debt Service Ratio |
|------|---------------------------|-----------------------------|---------------|----------|---------|---------------------|--------------|-------------------|----------------------|---------------------|----------------------|------------------|----------------------------------|------------|----------------------|-----------------------|--------------------|
| | Salable Energy Export GWh | Salable Energy Domestic GWh | | | | | | | | | | | | | | | |
| 0 | 1616.2 | 0.0 | 52.41 | 34.33 | 84.71 | 11.36 | 8.47 | 995.74 | 19.91 | 975.83 | 53.10 | 47.79 | -2.84 | 2.09 | -2.84 | 64.96 | 0.64 |
| 1 | 1616.2 | 0.0 | 52.93 | 34.67 | 65.55 | 11.89 | 8.56 | 1006.08 | 20.53 | 985.55 | 53.10 | 42.48 | 2.09 | 2.09 | 2.09 | 65.10 | 0.68 |
| 2 | 1616.2 | 0.0 | 53.46 | 35.02 | 86.40 | 12.43 | 8.64 | 1016.10 | 21.17 | 994.93 | 53.10 | 37.17 | 5.99 | 5.99 | 5.99 | 65.33 | 0.72 |
| 3 | 1616.2 | 0.0 | 54.00 | 35.37 | 87.27 | 12.96 | 8.73 | 1025.77 | 21.82 | 1003.95 | 53.10 | 31.86 | 11.87 | 11.87 | 11.87 | 65.55 | 0.77 |
| 4 | 1616.2 | 0.0 | 54.54 | 35.72 | 88.15 | 13.57 | 8.82 | 1035.07 | 22.50 | 1012.57 | 53.10 | 26.55 | 16.71 | 16.71 | 16.71 | 65.78 | 0.83 |
| 5 | 1616.2 | 0.0 | 55.08 | 36.08 | 89.02 | 14.18 | 8.90 | 1043.96 | 23.20 | 1020.76 | 53.10 | 21.24 | 21.50 | 4.30 | 17.20 | 65.94 | 0.89 |
| 6 | 1616.2 | 0.0 | 55.63 | 36.44 | 89.91 | 14.82 | 8.99 | 1052.40 | 23.92 | 1028.48 | 53.10 | 15.93 | 26.25 | 5.25 | 21.00 | 66.10 | 0.96 |
| 7 | 1616.2 | 0.0 | 56.19 | 36.81 | 90.81 | 15.46 | 9.08 | 1060.36 | 24.66 | 1035.70 | 53.10 | 10.62 | 30.96 | 6.19 | 24.77 | 66.24 | 1.04 |
| 8 | 1616.2 | 0.0 | 56.75 | 37.18 | 91.72 | 16.18 | 9.17 | 1067.81 | 25.42 | 1042.39 | 53.10 | 5.31 | 35.64 | 7.13 | 28.51 | 66.37 | 1.14 |
| 9 | 1616.2 | 0.0 | 57.32 | 37.55 | 92.64 | 16.91 | 9.26 | 1074.70 | 26.21 | 1048.48 | 53.10 | 0.00 | 40.26 | 8.05 | 32.21 | 66.47 | 1.25 |
| 10 | 1616.2 | 0.0 | 57.89 | 37.92 | 93.56 | 17.67 | 9.36 | 1080.99 | 27.02 | 1053.97 | 53.10 | 0.00 | 39.51 | 7.90 | 31.61 | 66.53 | 0.00 |
| 11 | 1616.2 | 0.0 | 58.47 | 38.30 | 94.50 | 18.47 | 9.45 | 1086.64 | 27.88 | 1058.78 | 53.10 | 0.00 | 38.72 | 7.74 | 30.98 | 66.58 | 0.00 |
| 12 | 1616.2 | 0.0 | 59.06 | 38.68 | 95.45 | 19.30 | 9.55 | 1091.60 | 28.73 | 1062.87 | 53.10 | 0.00 | 37.87 | 7.57 | 30.30 | 66.60 | 0.00 |
| 13 | 1616.2 | 0.0 | 59.65 | 39.07 | 96.41 | 20.17 | 9.64 | 1095.82 | 29.62 | 1068.20 | 53.10 | 0.00 | 36.98 | 7.40 | 29.58 | 66.60 | 0.00 |
| 14 | 1616.2 | 0.0 | 60.25 | 39.46 | 97.38 | 21.07 | 9.74 | 1099.25 | 30.53 | 1068.72 | 53.10 | 0.00 | 36.04 | 7.21 | 28.83 | 66.57 | 0.00 |
| 15 | 1616.2 | 0.0 | 60.85 | 39.86 | 98.35 | 22.02 | 9.84 | 1103.55 | 31.48 | 1070.37 | 53.10 | 0.00 | 35.01 | 7.00 | 28.01 | 66.49 | 0.00 |
| 16 | 1616.2 | 0.0 | 61.46 | 40.26 | 99.33 | 23.01 | 9.93 | 1103.55 | 32.46 | 1071.09 | 53.10 | 0.00 | 33.99 | 6.79 | 27.14 | 66.39 | 0.00 |
| 17 | 1616.2 | 0.0 | 62.07 | 40.66 | 100.32 | 24.05 | 10.03 | 1104.29 | 33.46 | 1070.83 | 53.10 | 0.00 | 32.78 | 6.56 | 26.22 | 66.24 | 0.00 |
| 18 | 1616.2 | 0.0 | 62.69 | 41.06 | 101.32 | 25.13 | 10.13 | 1104.03 | 34.50 | 1068.53 | 53.10 | 0.00 | 31.56 | 6.31 | 25.25 | 66.06 | 0.00 |
| 19 | 1616.2 | 0.0 | 63.32 | 41.47 | 102.34 | 26.26 | 10.23 | 1102.89 | 35.57 | 1067.12 | 53.10 | 0.00 | 30.28 | 6.06 | 24.22 | 65.85 | 0.00 |
| 20 | 1616.2 | 0.0 | 63.95 | 41.89 | 103.36 | 27.44 | 10.34 | 1100.20 | 36.67 | 1063.53 | 53.10 | 0.00 | 28.91 | 5.78 | 23.13 | 65.58 | 0.00 |
| 21 | 1616.2 | 0.0 | 64.59 | 42.31 | 104.39 | 28.68 | 10.44 | 1096.50 | 37.81 | 1058.69 | 53.10 | 0.00 | 27.46 | 5.49 | 21.97 | 65.27 | 0.00 |
| 22 | 1616.2 | 0.0 | 65.23 | 42.73 | 105.42 | 29.97 | 10.54 | 1091.51 | 38.98 | 1052.53 | 53.10 | 0.00 | 25.93 | 5.19 | 20.74 | 64.91 | 0.00 |
| 23 | 1616.2 | 0.0 | 65.89 | 43.16 | 106.49 | 31.32 | 10.65 | 1085.16 | 40.19 | 1044.97 | 53.10 | 0.00 | 24.33 | 4.87 | 19.46 | 64.52 | 0.00 |
| 24 | 1616.2 | 0.0 | 66.54 | 43.59 | 107.54 | 32.73 | 10.75 | 1077.36 | 41.44 | 1035.92 | 53.10 | 0.00 | 22.62 | 4.52 | 18.10 | 64.06 | 0.00 |
| Sum | | | 5460.36 | 2031.32 | 546.03 | 2313.85 | 569.16 | 531.00 | 330.21 | 238.95 | 149.448 | 2883.01 | Average DSC for Repayment Period | 0.85 | | | |

Note: Net Operation Income = Sales Revenue - O/M Cost - Royalty - Depreciation
 Income before Tax = Net Operation Income - Interest Payment
 Current Asset in Cash = Net Operation Income + Depreciation - Debt Service Ratio = Current Asset in Cash / (Principal Repay. + Interest Payment)
 The year 25 onwards are not printed in the above table intentionally.

Table 18.2-3 Financial Analysis (4/4) Financial Internal Rate of Return

| Case - B (Base) | | Equity Proportions | | Total construction Cost (M.US\$) | | | Discount Rate | | |
|-------------------|---------------|-----------------------|-------|----------------------------------|---------|---------|---------------|--------------------|--------|
| Dam Site: | Se Kong No.4 | Lao PDR | 25.0% | Finance Items | LAO PDR | PRV SCT | Total | Discounted to Year | 10.0% |
| Install Capacity | 443 MW | Private | 75.0% | Own Finance | 56.92 | 170.7 | 227.62 | B(enefit) | 669.39 |
| Generation Energy | 1816 GWh | Royalty from Operatio | 10.0% | Principal Loan | 132.75 | 398.29 | 531.04 | C(cost) | 715.42 |
| Construction Cost | 643.61 M.US\$ | Lao PDR | 25.0% | IDC | 59.27 | 177.81 | 237.08 | B/C | 0.94 |
| | | Private | 75.0% | Total | 248.94 | 746.8 | 995.74 | FIRR for the Year | 9 |
| | | Equity / Royalty Fee | | 56.92 | 0 | | | FIRR | -9.85% |

| Year | Own Finance | IDC | Principal Repay. | Interest Payment | Royalty | Total Cost | Net Income after Tax | Depreciation + Interest | Total Income | NPV Convert Index | Net Present Value | | NPV Cumulative | | Balance B - C before Discount |
|------|-------------|--------|------------------|------------------|---------|------------|----------------------|-------------------------|--------------|-------------------|-------------------|---------|----------------|-------------|-------------------------------|
| | | | | | | | | | | | Cost | Benefit | Cost (C) | Benefit (B) | |
| -10 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.5937 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 15.91 | 3.71 | | | 0.00 | 15.91 | | | 0.00 | 2.3579 | 37.51 | 0.00 | 37.51 | 0.00 | -15.91 |
| -8 | 7.67 | 5.49 | | | 0.00 | 7.67 | | | 0.00 | 2.1436 | 16.44 | 0.00 | 53.95 | 0.00 | -7.67 |
| -7 | 22.52 | 10.75 | | | 0.00 | 22.52 | | | 0.00 | 1.9487 | 43.88 | 0.00 | 97.83 | 0.00 | -22.52 |
| -6 | 28.89 | 17.49 | | | 0.00 | 28.89 | | | 0.00 | 1.7716 | 51.18 | 0.00 | 149.01 | 0.00 | -28.89 |
| -5 | 26.03 | 23.57 | | | 0.00 | 26.03 | | | 0.00 | 1.6105 | 41.92 | 0.00 | 190.93 | 0.00 | -26.03 |
| -4 | 37.14 | 32.24 | | | 0.00 | 37.14 | | | 0.00 | 1.4641 | 54.38 | 0.00 | 245.31 | 0.00 | -37.14 |
| -3 | 39.52 | 41.45 | | | 0.00 | 39.52 | | | 0.00 | 1.3310 | 52.60 | 0.00 | 297.91 | 0.00 | -39.52 |
| -2 | 33.51 | 49.27 | | | 0.00 | 33.51 | | | 0.00 | 1.2100 | 40.55 | 0.00 | 338.46 | 0.00 | -33.51 |
| -1 | 16.43 | 53.11 | | | 0.00 | 16.43 | | | 0.00 | 1.1000 | 18.07 | 0.00 | 356.53 | 0.00 | -16.43 |
| 0 | | | 53.10 | 47.79 | | 53.10 | -2.84 | 67.70 | 64.86 | 1.0000 | 53.10 | 64.86 | 409.63 | 64.86 | 11.76 |
| 1 | | | 53.10 | 42.48 | | 53.10 | 2.09 | 63.01 | 65.10 | 0.9091 | 48.27 | 59.18 | 457.90 | 124.04 | 12.00 |
| 2 | | | 53.10 | 37.17 | | 53.10 | 6.99 | 58.34 | 65.33 | 0.8264 | 43.88 | 53.99 | 501.78 | 178.03 | 12.23 |
| 3 | | | 53.10 | 31.86 | | 53.10 | 11.87 | 53.68 | 65.55 | 0.7513 | 39.89 | 49.25 | 541.67 | 227.28 | 12.45 |
| 4 | | | 53.10 | 26.55 | | 53.10 | 16.71 | 49.05 | 65.76 | 0.6830 | 36.27 | 44.91 | 577.94 | 272.19 | 12.66 |
| 5 | | | 53.10 | 21.24 | | 53.10 | 17.20 | 44.44 | 61.64 | 0.6209 | 32.97 | 38.27 | 610.91 | 310.46 | 8.54 |
| 6 | | | 53.10 | 15.93 | | 53.10 | 21.00 | 39.85 | 60.85 | 0.5645 | 29.97 | 34.35 | 640.88 | 344.81 | 7.75 |
| 7 | | | 53.10 | 10.62 | | 53.10 | 24.77 | 35.28 | 60.05 | 0.5132 | 27.25 | 30.82 | 668.13 | 375.63 | 6.95 |
| 8 | | | 53.10 | 5.31 | | 53.10 | 28.51 | 30.73 | 59.24 | 0.4665 | 24.77 | 27.64 | 692.90 | 403.27 | 6.14 |
| 9 | | | 53.10 | 0.00 | | 53.10 | 32.21 | 26.21 | 58.42 | 0.4241 | 22.52 | 24.78 | 715.42 | 428.05 | 5.32 |
| 10 | | | 0.00 | 0.00 | | 0.00 | 31.61 | 27.02 | 58.63 | 0.3855 | 0.00 | 22.60 | 715.42 | 450.65 | 58.63 |
| 11 | | | 0.00 | 0.00 | | 0.00 | 30.98 | 27.86 | 58.84 | 0.3505 | 0.00 | 20.62 | 715.42 | 471.27 | 58.84 |
| 12 | | | 0.00 | 0.00 | | 0.00 | 30.30 | 28.73 | 59.03 | 0.3186 | 0.00 | 18.81 | 715.42 | 490.08 | 59.03 |
| 13 | | | 0.00 | 0.00 | | 0.00 | 29.58 | 29.62 | 59.20 | 0.2897 | 0.00 | 17.15 | 715.42 | 507.23 | 59.20 |
| 14 | | | 0.00 | 0.00 | | 0.00 | 28.83 | 30.53 | 59.36 | 0.2633 | 0.00 | 15.63 | 715.42 | 522.86 | 59.36 |
| 15 | | | 0.00 | 0.00 | | 0.00 | 28.01 | 31.48 | 59.49 | 0.2394 | 0.00 | 14.24 | 715.42 | 537.10 | 59.49 |
| 16 | | | 0.00 | 0.00 | | 0.00 | 27.14 | 32.46 | 59.60 | 0.2176 | 0.00 | 12.97 | 715.42 | 550.07 | 59.60 |
| 17 | | | 0.00 | 0.00 | | 0.00 | 26.22 | 33.46 | 59.68 | 0.1978 | 0.00 | 11.80 | 715.42 | 561.87 | 59.68 |
| 18 | | | 0.00 | 0.00 | | 0.00 | 25.25 | 34.50 | 59.75 | 0.1799 | 0.00 | 10.75 | 715.42 | 572.62 | 59.75 |
| 19 | | | 0.00 | 0.00 | | 0.00 | 24.22 | 35.57 | 59.79 | 0.1635 | 0.00 | 9.78 | 715.42 | 582.40 | 59.79 |
| 20 | | | 0.00 | 0.00 | | 0.00 | 23.13 | 36.67 | 59.80 | 0.1486 | 0.00 | 8.89 | 715.42 | 591.29 | 59.80 |
| 21 | | | 0.00 | 0.00 | | 0.00 | 21.97 | 37.81 | 59.78 | 0.1351 | 0.00 | 8.08 | 715.42 | 599.37 | 59.78 |
| 22 | | | 0.00 | 0.00 | | 0.00 | 20.74 | 38.98 | 59.72 | 0.1228 | 0.00 | 7.33 | 715.42 | 606.70 | 59.72 |
| 23 | | | 0.00 | 0.00 | | 0.00 | 19.46 | 40.19 | 59.65 | 0.1117 | 0.00 | 6.66 | 715.42 | 613.36 | 59.65 |
| 24 | | | 0.00 | 0.00 | | 0.00 | 18.10 | 41.44 | 59.54 | 0.1015 | 0.00 | 6.04 | 715.42 | 619.40 | 59.54 |
| 25 | | | 0.00 | 0.00 | | 0.00 | 16.67 | 42.72 | 59.39 | 0.0923 | 0.00 | 5.48 | 715.42 | 624.88 | 59.39 |
| 26 | | | 0.00 | 0.00 | | 0.00 | 15.17 | 44.05 | 59.22 | 0.0839 | 0.00 | 4.97 | 715.42 | 629.85 | 59.22 |
| 27 | | | 0.00 | 0.00 | | 0.00 | 13.58 | 45.41 | 58.99 | 0.0763 | 0.00 | 4.50 | 715.42 | 634.35 | 58.99 |
| 28 | | | 0.00 | 0.00 | | 0.00 | 11.90 | 46.82 | 58.72 | 0.0693 | 0.00 | 4.07 | 715.42 | 638.42 | 58.72 |
| 29 | | | 0.00 | 0.00 | | 0.00 | 10.14 | 48.27 | 58.41 | 0.0630 | 0.00 | 3.68 | 715.42 | 642.10 | 58.41 |
| 30 | | | 0.00 | 0.00 | | 0.00 | 8.29 | 49.77 | 58.06 | 0.0573 | 0.00 | 3.33 | 715.42 | 645.43 | 58.06 |
| 31 | | | 0.00 | 0.00 | | 0.00 | 6.35 | 51.31 | 57.66 | 0.0521 | 0.00 | 3.00 | 715.42 | 648.43 | 57.66 |
| 32 | | | 0.00 | 0.00 | | 0.00 | 4.30 | 52.90 | 57.20 | 0.0474 | 0.00 | 2.71 | 715.42 | 651.14 | 57.20 |
| 33 | | | 0.00 | 0.00 | | 0.00 | 2.15 | 54.54 | 56.69 | 0.0431 | 0.00 | 2.44 | 715.42 | 653.58 | 56.69 |
| 34 | | | 0.00 | 0.00 | | 0.00 | -0.13 | 56.23 | 56.10 | 0.0391 | 0.00 | 2.19 | 715.42 | 655.77 | 56.10 |
| 35 | | | 0.00 | 0.00 | | 0.00 | -3.09 | 57.97 | 54.88 | 0.0356 | 0.00 | 1.95 | 715.42 | 657.72 | 54.88 |
| 36 | | | 0.00 | 0.00 | | 0.00 | -6.19 | 59.77 | 53.58 | 0.0323 | 0.00 | 1.73 | 715.42 | 659.45 | 53.58 |
| 37 | | | 0.00 | 0.00 | | 0.00 | -9.45 | 61.62 | 52.17 | 0.0294 | 0.00 | 1.53 | 715.42 | 660.98 | 52.17 |
| 38 | | | 0.00 | 0.00 | | 0.00 | -12.88 | 63.53 | 50.65 | 0.0267 | 0.00 | 1.35 | 715.42 | 662.33 | 50.65 |
| 39 | | | 0.00 | 0.00 | | 0.00 | -16.46 | 65.50 | 49.04 | 0.0243 | 0.00 | 1.19 | 715.42 | 663.52 | 49.04 |
| 40 | | | 0.00 | 0.00 | | 0.00 | -20.22 | 67.53 | 47.31 | 0.0221 | 0.00 | 1.05 | 715.42 | 664.57 | 47.31 |
| 41 | | | 0.00 | 0.00 | | 0.00 | -24.17 | 69.63 | 45.46 | 0.0201 | 0.00 | 0.91 | 715.42 | 665.48 | 45.46 |
| 42 | | | 0.00 | 0.00 | | 0.00 | -28.29 | 71.79 | 43.50 | 0.0183 | 0.00 | 0.80 | 715.42 | 666.28 | 43.50 |
| 43 | | | 0.00 | 0.00 | | 0.00 | -32.59 | 74.01 | 41.42 | 0.0166 | 0.00 | 0.69 | 715.42 | 666.97 | 41.42 |
| 44 | | | 0.00 | 0.00 | | 0.00 | -37.12 | 76.31 | 39.19 | 0.0151 | 0.00 | 0.59 | 715.42 | 667.56 | 39.19 |
| 45 | | | 0.00 | 0.00 | | 0.00 | -41.86 | 78.67 | 36.81 | 0.0137 | 0.00 | 0.50 | 715.42 | 668.06 | 36.81 |
| 46 | | | 0.00 | 0.00 | | 0.00 | -46.83 | 81.11 | 34.28 | 0.0125 | 0.00 | 0.43 | 715.42 | 668.49 | 34.28 |
| 47 | | | 0.00 | 0.00 | | 0.00 | -52.02 | 83.63 | 31.61 | 0.0113 | 0.00 | 0.36 | 715.42 | 668.85 | 31.61 |
| 48 | | | 0.00 | 0.00 | | 0.00 | -57.44 | 86.22 | 28.78 | 0.0103 | 0.00 | 0.30 | 715.42 | 669.15 | 28.78 |
| 49 | | | 0.00 | 0.00 | | 0.00 | -63.10 | 88.89 | 25.78 | 0.0094 | 0.00 | 0.24 | 715.42 | 669.39 | 25.78 |
| Sum | 227.62 | 237.08 | 531.00 | 238.95 | 0.00 | 758.62 | 180.76 | 2552.80 | 2733.56 | | | 715.42 | 669.39 | | 1974.94 |

Note: Financial Generation Cost (FGC) is calculated as below.

$$FGC = NPV(\text{Own Finance} + IDC + \text{Royalty} + O/M \text{ Cost} + \text{Prs} \text{ Repayment} + \text{Interest Payment}) / NPV(\text{Generation Energy})$$

Total Cost does not include IDC and Interest Payment for the purpose of FIRR calculation.

Financial Generation Cost in Year 0 at 10.0% discount rate

78.15 \$/MWh

Table 18.2-4 Financial Analysis Summary of Financial Analysis

| | | | |
|---|--------------------------|-------------------------|-------------------|
| Site Name | | Se Kong No.4 | |
| Case: - A (Case 1: Allocated T/L system) | | | |
| Construction Cost | | 1,565.58 US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 443.0 MW | | |
| Generation Energy | 1,816.0 GWh | | |
| Sending-end Energy | 1,616.2 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 693.55 M.US\$ | | |
| After Price Escalation | 817.38 M.US\$ | | |
| Financial Budget | 1,014.38 M.US\$ | | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 81.74 | 0.00 |
| | Loan Amount | 735.64 | 0.00 |
| | IDC | 197.00 | 0.00 |
| | Royalty | - | 0.00 |
| | Total | 1014.38 | 0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |
| Financial Indeces | | | |
| Averaged Debt Service Coverage | | 1.46 | |
| Financial Internal Rate of Return | | 22.75% | |
| FIRR Calculation Period | | 25 years | |
| BOT Period | | -- Years | |
| FIRR for the BOT Period | | - | |
| General Inflation | | | |
| | Foreign | 2.80% | |
| | Domestic | 4.50% | |
| Financial Conditions | | | |
| | Interest Rate for IDC | 6.00% | |
| | Interest after Operation | 6.00% | |
| | Repayment Period | 25 yr | |
| | Graced Period | 9 yr | |
| | Government Own finance | 10.00% | |
| Income Statement | | M.US\$ | |
| Sales Revenue | | 5,460.36 | |
| Operating Expense | | 4,545.82 | |
| Financial Expense | | 529.33 | |
| Net Income before Tax | | 385.21 | |
| Income Tax | | (138.16) | |
| Net Income | | 247.05 | |
| To the Government | | M.US\$ | |
| Royalty | | 0 | |
| Income Tax | | 138.16 | |
| Interest Payment to Equity | | - | |
| Net Income | | 138.16 | |
| Financial Generation Cost in | | 61.33 | |
| Year 0 for the project life time | | | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.2-5 Financial Analysis Summary of Financial Analysis

| | | | |
|--|-------------------------|---------------------|-------------------|
| Site Name | | Se Kong No.4 | |
| Case: - A (Case 2: Independent T/L) | | | |
| Construction Cost | 1,558.17 US\$/kW | | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 443.0 | MW | |
| Generation Energy | 1,816.0 | GWh | |
| Sending-end Energy | 1,616.2 | GWh | |
| Construction Cost | | | |
| Before Price Escalation | 690.27 | M.US\$ | |
| After Price Escalation | 813.49 | M.US\$ | |
| Financial Budget | 1,009.57 | M. US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 81.36 | 0.00 |
| | Loan Amount | 732.13 | 0.00 |
| | IDC | 196.08 | 0.00 |
| | Royalty | - | 0.00 |
| | Total | 1009.57 | 0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |

| | |
|-----------------------------------|----------|
| Financial Indices | |
| Averaged Debt Service Coverage | 1.47 |
| Financial Internal Rate of Return | 22.86% |
| FIRR Calculation Period | 25 years |

| | | |
|-------------------------|----|--------------|
| BOT Period | -- | Years |
| FIRR for the BOT Period | | - |

| | | |
|--------------------------|--------|--|
| General Inflation | | |
| Foreign | 2.80% | |
| Domestic | 4.50% | |
| Financial Conditions | | |
| Interest Rate for IDC | 6.00% | |
| Interest after Operation | 6.00% | |
| Repayment Period | 25 yr | |
| Graced Period | 9 yr | |
| Government Own finance | 10.00% | |

| | | |
|-------------------------|----------|---------------|
| Income Statement | | M.US\$ |
| Sales Revenue | 5,460.36 | |
| Operating Expense | 4,524.17 | |
| Financial Expense | 526.79 | |
| Net Income before Tax | 409.40 | |
| Income Tax | (140.69) | |
| Net Income | 268.71 | |

| | | |
|----------------------------|---------|---------------|
| To the Government | | M.US\$ |
| Royalty | 0 | |
| Income Tax | 140.686 | |
| Interest Payment to Equity | - | |
| Net Income | 140.686 | |

| | |
|---|--------|
| Financial Generation Cost in Year 0 for the project life time | 61.04 |
| 10.0% Discount Rate | \$/MWh |

Table 18.2-6 Financial Analysis Summary of Financial Analysis

| | | | |
|---|------------------------|---------------------|-------------------|
| Site Name | | Se Kong No.4 | |
| Case: - B (Case 1: Allocated T/L system) | | | |
| Construction Cost | 1,565.58 | US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 443.0 MW | | |
| Generation Energy | 1,816.0 GWh | | |
| Sending-end Energy | 1,616.2 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 693.55 | M.US\$ | |
| After Price Escalation | 817.38 | M.US\$ | |
| Financial Budget | 1,072.76 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 61.31 | 183.92 |
| | Loan Amount | 143.04 | 429.11 |
| | IDC | 63.84 | 191.54 |
| | Royalty | | 0.00 |
| | Total | 268.19 | 804.57 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indeces | | | |
| Averaged Debt Service Coverage | | 0.78 | |
| Financial Internal Rate of Return | | -19.25% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | | |
| FIRR for the BOT Period | | 6.88% | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 10.00% | |
| Interest after Operation | | 10.00% | |
| Repayment Period | | 10 yr | |
| Graced Period | | 9 yr | |
| Government Own finance | | 0.00% | |
| Income Statement | | | |
| | | M.US\$ | |
| Sales Revenue | | 5,460.36 | |
| Operating Expense | | 5,227.47 | |
| Financial Expense | | 257.04 | |
| Net Income before Tax | | (24.15) | |
| Income Tax | | (121.09) | |
| Net Income | | (145.24) | |
| To the Government | | | |
| | | M.US\$ | |
| Royalty | | 546.03 | |
| Income Tax | | 121.094 | |
| Interest Payment to Equity | | - | |
| Net Income | | 667.124 | |
| Financial Generation Cost in | | | |
| Year 0 for the project life time | | 83.79 | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.2-7 Financial Analysis Summary of Financial Analysis

| | | | |
|--|-------------|-------------------------|-------------------|
| Site Name | | Se Kong No.4 | |
| Case: - B (Case 2: Independent T/L) | | | |
| Construction Cost | | 1,558.17 US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 443.0 MW | | |
| Generation Energy | 1,816.0 GWh | | |
| Sending-end Energy | 1,616.2 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 690.27 | M.US\$ | |
| After Price Escalation | 813.49 | M.US\$ | |
| Financial Budget | 1,067.67 | M.US\$ | |
| Financial Items | | Lao PDR | Private S. |
| Own Finance | 61.02 | 183.04 | |
| Loan Amount | 142.36 | 427.07 | |
| IDC | 63.55 | 190.63 | |
| Royalty | - | 0.00 | |
| Total | 266.93 | 800.74 | |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indices | | | |
| Averaged Debt Service Coverage | | 0.78 | |
| Financial Internal Rate of Return | | -18.28% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | | |
| FIRR for the BOT Period | | 25 Years | |
| FIRR for the BOT Period | | 6.96% | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 10.00% | |
| Interest after Operation | | 10.00% | |
| Repayment Period | | 10 yr | |
| Graced Period | | 9 yr | |
| Government Own finance | | 0.00% | |
| Income Statement | | M.US\$ | |
| Sales Revenue | | 5,460.36 | |
| Operating Expense | | 5,205.20 | |
| Financial Expense | | 256.27 | |
| Net Income before Tax | | (1.11) | |
| Income Tax | | (122.82) | |
| Net Income | | (123.93) | |
| To the Government | | M.US\$ | |
| Royalty | | 546.03 | |
| Income Tax | | 122.82 | |
| Interest Payment to Equity | | - | |
| Net Income | | 668.85 | |
| Financial Generation Cost in Year 0 for the project life time | | 83.42 | |
| 10.0% Discount Rate | | \$/MWh | |

18.3 Xe Kaman No.1計画

(1) Xe Kaman No.1 の基本条件

このプロジェクトは以下の特性を有する。

| | | | |
|---------|-------|---------|---------|
| - 設備出力 | | 256 | MW |
| - 常時出力 | | 245 | MW |
| - 販売電力量 | | 1,011.9 | GWh |
| - 建設費 | | 404.05 | M. US\$ |

詳細はTable 18.3-1に掲げる。

(2) 財務分析の結果と感度分析

a) Case-A

下表に結果を、また Table 18.3-2、Table 18.3-4 および Table 18.3-5 により詳細な情報を示す。

| Case | DSC | FIRR | Levelized Financial Generation Cost * |
|--------|------|---------|---------------------------------------|
| Base | 1.55 | 27.49 % | 54.95 \$/MWh |
| Case 1 | 1.42 | 25.37 % | 58.85 \$/MWh |
| Case 2 | 1.38 | 24.73 % | 60.10 \$/MWh |

* プロジェクト寿命（50年）と10%の割引率を使用

FIRRはSe Kong No.1より高めの値を示しているにも拘わらず、DSCはSe Kong No.4より若干低めの値となっている。この現象はSe Kong No.4に比べて販売電力量が少なめであるからと思われる。Base Case についてはプロジェクトはかなりの収益を期待できる。

b) Case-B

下表に結果を、また Table 18.3-3、Table 18.3-6 および Table 18.3-7 により詳細な情報を示す。

| Case | DSC | FIRR | Levelized Financial Generation Cost * | FIRR for BOT Period (25 years) |
|--------|------|----------|---------------------------------------|--------------------------------|
| Base | 0.83 | -13.68 % | 74.67 \$/MWh | 7.97 % |
| Case 1 | 0.76 | -31.25 % | 79.61 \$/MWh | 6.83 % |
| Case 2 | 0.74 | N/A | 81.19 \$/MWh | 6.48 % |

N/A は -35% 以下を意味する。
* プロジェクト寿命 (50年) と10%の割引率を使用

DSCとFIRRはSe Kong No. 4と比較すると Case-A と同じ傾向を示している。下の表は Base Case について数種のパラメーターを個々に変化させて実行可能な状態を求めたものであり、MIHから提示された条件ではBOTの方法についての議論の余地は Se Kong No. 4 と同様極めて乏しいと思われる。

| パラメーター | 数 値 | DSC | FIRR | 発電費用 | FIRR (BOT) |
|---------------|----------------------------|------|--------|---------------|------------|
| 建設費 | 242.43 M. US\$ (40 % 減) | 1.50 | 12.07% | 46.87 \$/MWh | 17.57% |
| 輸出電力料金 上昇率 | 1.0% to 12.0% | 1.51 | 8.88% | 103.90 \$/MWh | 20.06% |
| 利子率 | 満足せず | — | — | — | — |

Table 18.3-1 Basic Conditions for Xe Kaman No.1

| Items | Value and Conditions | Remarks |
|---|--|---|
| Installed Capacity | 256 MW | |
| Firm Capacity | 245 MW | Peak 8 Hours |
| Generation Energy | 1,137 GWh | Annual Average Energy |
| Plant Available Factor | 97.373 % | |
| Sending-end Energy (Salable Energy) | 1,011.9 GWh | G.Energy x {1- (St.Use + T/D Loss)} |
| Construction Cost including Associated T/L | 404.05 M.US\$ F/C: 342.44 M.US\$ L/C: 61.61 M.US\$ 1,578.32 \$/kW | subject to price escalation F/C: 2.8 % L/C: 4.5 % |
| Construction Period | 7 years * | including Preparatory Works |

* F/C: 7.49, 4.73, 17.69, 22.03, 23.28, 16.95, 7.83 (%)

L/C: 12.33, 6.39, 18.32, 21.25, 21.02, 15.24, 5.45 (%)

Table 18.3-2 Financial Analysis (1/4) Summary of Financial Analysis

| | | | | | |
|--|-------------------------|----------------------|-------------------------------------|--|-----------------|
| Site Name | | Xe Kaman No.1 | | Financial Indices | |
| Case: - A (Base) | | | | Averaged Debt Service Coverage | 1.55 |
| Construction Cost | 1,578.32 US\$/kW | | | Financial Internal Rate of Return | 27.49% |
| Equity Share | Lao PDR | Private S. | | FIRR Calculation Period | 25 years |
| | 100.0% | 0.0% | | | |
| Debt / Equity | Debt | Equity | | BOT Period | -- Years |
| | 90.0% | 10.0% | | FIRR for the BOT Period | - |
| Installed Capacity | 256.0 MW | | General Inflation | | |
| Generation Energy | 1,137.0 GWh | | Foreign 2.80% | | |
| Sending-end Energy | 1,011.9 GWh | | Domestic 4.50% | | |
| Construction Cost | | | Financial Conditions | | |
| Before Price Escalation | 404.05 M.US\$ | | Interest Rate for IDC 6.00% | | |
| After Price Escalation | 488.46 M.US\$ | | Interest after Operation 6.00% | | |
| Financial Budget | 585.05 M.US\$ | | Repayment Period 25 yr | | |
| | Financial Items | Lao PDR | Private S. | Graced Period 7 yr | |
| | Own Finance | 48.84 | 0.00 | Government Own finance 10.00% | |
| | Loan Amount | 439.62 | -0.00 | Income Statement M.US\$ | |
| | IDC | 96.59 | 0.00 | Sales Revenue | 3,418.75 |
| | Royalty | - | 0.00 | Operating Expense | 2,667.40 |
| | Total | 585.05 | -0.00 | Financial Expense | 316.55 |
| Export/Domestic Ratio for Salable Energy | | | Net Income before Tax 434.80 | | |
| Export | 100.0% | | Income Tax (107.65) | | |
| Domestic | 0.0% | | Net Income 327.15 | | |
| Initial Power Tariff at year 0 | | | To the Government M.US\$ | | |
| Export | 52.41 US\$/MWh | | Royalty 0 | | |
| Domestic | 34.33 US\$/MWh | | Income Tax 107.654 | | |
| Power Tariff Escalation | | | Interest Payment to Equity - | | |
| Export | 1.00% | | Net Income 107.654 | | |
| Domestic | 1.00% | | | | |
| Increase of Domestic Demand | 2.00% | | | | |
| Royalty for Construction Period | 0.00% | | | | |
| Royalty from Operation onwards | 0.00% | | | | |
| | | | Financial Generation Cost in | | 54.95 |
| | | | Year 0 for the project life time | | |
| | | | 10.0% Discount Rate | | \$/MWh |

Table 18.3-2 Financial Analysis (2/4) Construction Disbursement and Loan Amount

| Dam Site: | Xe Kaman No.1 | | Equity Proportions | | Price Escalation per annum | | Finance Condition | | Total Construction Cost (M.US\$) | | | |
|-------------------|---------------|-----------|--------------------|---------|----------------------------|-----------------|-------------------|----------|----------------------------------|---------|---------|--------|
| | Installed | 256.00 MW | Lao PDR | Private | 100.0% | F/C Portion | IDC | 6.00 % | Finance Items | Lao PDR | PRV SCT | Total |
| Generation Energy | 1,137.0 GWh | | | | 0.0% | L/C Portion | Interest Rate | 6.00 % | Own Finance | 48.84 | 0.00 | 48.84 |
| Salable Energy | 1,011.9 GWh | | | | 90.0% | | Repayment Period | 25 years | Principal Loan | 439.62 | -0.00 | 439.62 |
| Project Cost | 1578.32 \$/Kw | | | | 10.0% | | Graced Period | 7 years | IDC | 96.59 | 0.00 | 96.59 |
| F/C | 342.44 M.US\$ | | | | Exp. Price (\$/MWh) | Exporting Ratio | Lao Own Finance | 10.00 % | Total | 585.05 | -0.00 | 585.05 |
| L/C | 61.61 M.US\$ | | | | Dom. Price (\$/MWh) | | | | Equity / Royalty Fee | 0.00 | 0.00 | - |
| Total | 404.05 M.US\$ | | | | | | | | | | | |

| Year | Disbursement before Escalation | | Price Index | | Disbursement after Escalation | | Total Disburse | | Finance Proportion | | | Own Finance Portion | | | Loan Portion | | | Loan Cumulative | | | IDC | | | Royalty Fee | | | | | | | | |
|------|--------------------------------|--------|-------------|--------|-------------------------------|--------|----------------|--------|--------------------|--------|---------|---------------------|---------|--------|--------------|--------|---------|-----------------|---------|--------|---------|--------|---------|-------------|---------|--------|---------|--------|--------|------|--------|--|
| | for F/C | | for L/C | | for F/C | | for L/C | | Lao PDR | | PRV SCT | | Lao PDR | | PRV SCT | | Lao PDR | | PRV SCT | | Lao PDR | | PRV SCT | | Lao PDR | | PRV SCT | | M.US\$ | | M.US\$ | |
| | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | | | |
| -10 | 0.00 | 0.00 | 1.0000 | 1.0000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -9 | 0.00 | 0.00 | 1.0280 | 1.0450 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -8 | 0.00 | 0.00 | 1.0568 | 1.0920 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -7 | 25.65 | 7.60 | 1.0864 | 1.1412 | 27.87 | 8.67 | 36.54 | 36.54 | 0.00 | 36.54 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 32.89 | 0.00 | 32.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -6 | 16.20 | 3.94 | 1.1168 | 1.1925 | 18.09 | 4.70 | 22.79 | 22.79 | 0.00 | 22.79 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 20.51 | 0.00 | 20.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -5 | 60.58 | 11.29 | 1.1481 | 1.2462 | 69.55 | 14.07 | 83.62 | 83.62 | 0.00 | 83.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 75.26 | 0.00 | 75.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -4 | 75.44 | 13.09 | 1.1802 | 1.3023 | 89.03 | 17.05 | 106.08 | 106.08 | 0.00 | 106.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 95.47 | 0.00 | 95.47 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -3 | 79.72 | 12.95 | 1.2133 | 1.3609 | 96.72 | 17.62 | 114.34 | 114.34 | 0.00 | 114.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 102.91 | 0.00 | 102.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -2 | 58.04 | 9.39 | 1.2472 | 1.4221 | 72.39 | 13.35 | 85.74 | 85.74 | 0.00 | 85.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 77.17 | 0.00 | 77.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -1 | 26.81 | 3.35 | 1.2821 | 1.4861 | 34.37 | 4.98 | 39.35 | 39.35 | -0.00 | 39.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 35.41 | 0.00 | 35.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 0 | 0.00 | 0.00 | 1.3180 | 1.5530 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Sum | 342.44 | 61.61 | | | 408.02 | 80.44 | 488.46 | 488.46 | -0.00 | 488.46 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 439.62 | 0.00 | 439.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

Table 18.3-2 Financial Analysis (3/4) Income Statement

| | | | | | | | | | | | | | | | | | |
|-------------------|--|---------------|--|---------------------|--|----------------------------|--|-----------------|--|------------------|--|------------------------|--|------------------------------|--|--------|--|
| Case: - A (Base) | | Xe Kaman No.1 | | Exporting Ratio | | 100.0% Exp. Price (\$/MWh) | | 52.41 O/M cost | | 1.5% of T. Disb | | Income Tax | | 20.0% Initial F.A. (M.US\$) | | 585.05 | |
| Dam Site: | | 258 MW | | Domestic Use | | 0.0% Dom. Price (\$/MWh) | | 34.33 Fuel Cost | | 0.00 \$/MWh | | Royalty from Operation | | 0.0% Life Time (Years) | | 50 | |
| Generation Energy | | 1137.0 GWh | | Increase of D. Use | | 2.0% Exp. Escalation | | 1.00% | | 17.58 M.US\$.p.a | | Private | | 100.0% Initial Dep. (M.US\$) | | 11.70 | |
| Salable Energy | | 1011.9 GWh | | Financial Condition | | Dom. Escalation | | 1.00% | | P. Repay. | | Dividend | | 0.0% F/C Escalation | | 2.8% | |
| Construction Cost | | 404.05 M.US\$ | | Interest Rate (%) | | 6 | | 25 | | (not considered) | | Equiv. Escalation | | 2.5% L/C Escalation | | 4.5% | |
| | | | | Repayment P. (Yr) | | | | | | | | | | 3.1% | | | |

| Year | Salable Energy | | Selling Price | | Sales Revenue | O/M Cost | Royalty | Y. Start Fixed Asset | Depreciation | Y. End Fixed Asset | Net Operation Income | Principal Repayment | Cum. of P. Repayment | Interest Payment | Income before Tax | Income Tax | Net Income after Tax | Current Asset in Cash | Debt Service Ratio | Export Price DSC=15 \$/MWh |
|------|----------------|--------------|---------------|-----------------|---------------|----------|---------|----------------------|--------------|--------------------|----------------------|---------------------|----------------------|------------------|-------------------|------------|----------------------|-----------------------|--------------------|----------------------------|
| | Export GWh | Domestic GWh | Export \$/MWh | Domestic \$/MWh | | | | | | | | | | | | | | | | |
| 0 | 1011.9 | 0.0 | 52.41 | 34.33 | 53.03 | 7.33 | 0.00 | 585.05 | 11.70 | 573.35 | 34.00 | 17.59 | 17.59 | 25.32 | 9.68 | 8.88 | 45.70 | 1.07 | 70.84 | |
| 1 | 1011.9 | 0.0 | 52.93 | 34.67 | 53.56 | 7.66 | 0.00 | 591.12 | 12.06 | 579.06 | 33.84 | 17.59 | 35.17 | 24.27 | 9.57 | 9.57 | 45.90 | 1.10 | 69.61 | |
| 2 | 1011.9 | 0.0 | 53.46 | 35.02 | 54.10 | 8.00 | 0.00 | 597.01 | 12.44 | 584.57 | 33.66 | 17.59 | 52.76 | 23.21 | 10.45 | 10.45 | 46.10 | 1.13 | 68.38 | |
| 3 | 1011.8 | 0.0 | 54.00 | 35.37 | 54.64 | 8.36 | 0.00 | 602.89 | 12.82 | 589.87 | 33.46 | 17.59 | 70.34 | 22.16 | 11.30 | 11.30 | 46.28 | 1.16 | 67.18 | |
| 4 | 1011.9 | 0.0 | 54.54 | 35.72 | 55.19 | 8.74 | 0.00 | 608.16 | 13.22 | 594.94 | 33.23 | 17.59 | 87.93 | 21.10 | 12.13 | 12.13 | 46.45 | 1.20 | 65.98 | |
| 5 | 1011.8 | 0.0 | 55.08 | 36.08 | 55.74 | 9.13 | 0.00 | 613.38 | 13.63 | 599.75 | 32.98 | 17.59 | 105.51 | 20.05 | 12.93 | 2.59 | 46.61 | 1.24 | 64.81 | |
| 6 | 1011.9 | 0.0 | 55.63 | 36.44 | 56.29 | 9.54 | 0.00 | 618.34 | 14.05 | 604.29 | 32.70 | 17.59 | 123.10 | 18.99 | 13.71 | 2.74 | 46.75 | 1.28 | 63.65 | |
| 7 | 1011.9 | 0.0 | 56.19 | 36.81 | 56.86 | 9.97 | 0.00 | 623.02 | 14.49 | 608.53 | 32.40 | 17.59 | 140.88 | 17.94 | 14.46 | 2.99 | 46.89 | 1.32 | 62.51 | |
| 8 | 1011.9 | 0.0 | 56.75 | 37.18 | 57.43 | 10.42 | 0.00 | 627.39 | 14.94 | 612.45 | 32.07 | 17.59 | 158.27 | 16.88 | 15.19 | 3.04 | 47.01 | 1.36 | 61.36 | |
| 9 | 1011.8 | 0.0 | 57.32 | 37.55 | 58.00 | 10.88 | 0.00 | 631.44 | 15.40 | 616.04 | 31.71 | 17.59 | 175.85 | 15.83 | 15.98 | 3.18 | 47.11 | 1.41 | 60.29 | |
| 10 | 1011.9 | 0.0 | 57.89 | 37.92 | 58.58 | 11.36 | 0.00 | 635.14 | 15.88 | 619.26 | 31.32 | 17.59 | 193.44 | 14.77 | 16.55 | 3.31 | 47.20 | 1.46 | 59.21 | |
| 11 | 1011.9 | 0.0 | 58.47 | 38.30 | 59.17 | 11.86 | 0.00 | 638.46 | 16.37 | 622.09 | 30.91 | 17.59 | 211.02 | 13.72 | 17.19 | 3.44 | 47.28 | 1.51 | 58.16 | |
| 12 | 1011.9 | 0.0 | 59.06 | 38.68 | 59.76 | 12.43 | 0.00 | 641.37 | 16.88 | 624.48 | 30.45 | 17.59 | 228.61 | 12.66 | 17.79 | 3.56 | 47.33 | 1.56 | 57.12 | |
| 13 | 1011.9 | 0.0 | 59.65 | 39.07 | 60.36 | 12.98 | 0.00 | 643.85 | 17.40 | 626.45 | 29.98 | 17.59 | 246.19 | 11.61 | 18.37 | 3.67 | 47.38 | 1.62 | 56.10 | |
| 14 | 1011.9 | 0.0 | 60.25 | 39.46 | 60.97 | 13.57 | 0.00 | 645.87 | 17.94 | 628.39 | 29.46 | 17.59 | 263.78 | 10.55 | 18.91 | 3.78 | 47.40 | 1.68 | 55.12 | |
| 15 | 1011.9 | 0.0 | 60.85 | 39.86 | 61.57 | 14.18 | 0.00 | 647.40 | 18.50 | 628.90 | 28.89 | 17.59 | 281.36 | 9.50 | 19.39 | 3.88 | 47.39 | 1.75 | 54.16 | |
| 16 | 1011.9 | 0.0 | 61.46 | 40.26 | 62.19 | 14.82 | 0.00 | 648.40 | 19.07 | 629.33 | 28.30 | 17.59 | 298.95 | 8.44 | 19.86 | 3.97 | 47.37 | 1.82 | 53.22 | |
| 17 | 1011.9 | 0.0 | 62.07 | 40.66 | 62.81 | 15.48 | 0.00 | 648.84 | 19.66 | 629.18 | 27.67 | 17.59 | 316.53 | 7.39 | 20.28 | 4.06 | 47.33 | 1.90 | 52.32 | |
| 18 | 1011.9 | 0.0 | 62.69 | 41.06 | 63.44 | 16.18 | 0.00 | 648.68 | 20.27 | 628.41 | 26.99 | 17.59 | 334.12 | 6.33 | 20.66 | 4.13 | 47.26 | 1.98 | 51.44 | |
| 19 | 1011.9 | 0.0 | 63.32 | 41.47 | 64.07 | 16.91 | 0.00 | 647.89 | 20.90 | 626.99 | 26.26 | 17.59 | 351.70 | 5.28 | 20.98 | 4.20 | 47.16 | 2.06 | 50.61 | |
| 20 | 1011.9 | 0.0 | 63.95 | 41.88 | 64.71 | 17.67 | 0.00 | 646.43 | 21.55 | 624.88 | 25.49 | 17.59 | 369.29 | 4.22 | 21.27 | 4.25 | 47.04 | 2.16 | 49.79 | |
| 21 | 1011.9 | 0.0 | 64.59 | 42.31 | 65.36 | 18.47 | 0.00 | 644.25 | 22.22 | 622.03 | 24.67 | 17.59 | 386.87 | 3.17 | 21.50 | 4.30 | 46.89 | 2.26 | 49.02 | |
| 22 | 1011.9 | 0.0 | 65.23 | 42.73 | 66.01 | 19.30 | 0.00 | 641.31 | 22.90 | 618.41 | 23.81 | 17.59 | 404.45 | 2.11 | 21.70 | 4.34 | 46.71 | 2.37 | 48.27 | |
| 23 | 1011.9 | 0.0 | 65.89 | 43.16 | 66.67 | 20.17 | 0.00 | 637.58 | 23.61 | 613.97 | 22.89 | 17.59 | 422.04 | 1.05 | 21.84 | 4.37 | 46.50 | 2.50 | 47.56 | |
| 24 | 1011.9 | 0.0 | 66.54 | 43.59 | 67.33 | 21.07 | 0.00 | 633.00 | 24.35 | 608.65 | 21.91 | 17.59 | 439.62 | 0.00 | 21.91 | 4.39 | 46.26 | 2.63 | 46.89 | |
| Sum | | | | | 3418.75 | 1307.89 | 0 | | 1359.51 | | 751.35 | 439.63 | 316.55 | 434.8 | 107.554 | 327.146 | 2110.86 | | 1.55 | |

Note: Net Operation Income = Sales Revenue - O/M Cost - Royalty - Depreciation
 Income before Tax = Net Operation Income - Interest Payment
 Current Asset in Cash = Net Operation Income + Depreciation - Debt Service Ratio = Current Asset in Cash / (Principal Repay + Interest Payment)
 The year 25 onwards are not printed in the above table intentionally.

Table 18.3-2 Financial Analysis (4/4) Financial Internal Rate of Return

Case - A (Base)

| Dam Site: Xe Kaman No.1 | | Equity Proportions | | Total construction Cost (M.US\$) | | | Discount Rate | | |
|-------------------------|---------------|-----------------------|--------|----------------------------------|---------|---------|---------------|--------------------|--------|
| Install Capacity | 256 MW | Lao PDR | 100.0% | Finance Items | LAO PDR | PRV SCT | Total | Discounted to Year | 0 |
| Generation Energy | 1137 GWh | Private | 0.0% | Own Finance | 48.84 | 0 | 48.84 | B(enefit) | 481.9 |
| Construction Cost | 404.05 M.US\$ | Royalty from Operatio | 0.0% | Principal Loan | 439.62 | -0 | 439.62 | C(ost) | 245.62 |
| | | Lao PDR | 100.0% | IDC | 96.59 | 0 | 96.59 | B/C | 1.96 |
| | | Private | 0.0% | Total | 585.05 | -0 | 585.05 | FIRR for the Year | 24 |
| | | | | Equity / Royalty Fee | 0 | 0 | | FIRR | 27.49% |

| Year | Own Finance | IDC | Principal Repay. | Interest Payment | Royalty | Total Cost | Net Income after Tax | Depreciation + Interest | Total Income | NPV Convert Index | Net Present Value | | NPV Cumulative | | Balance B - C before Discount |
|------|-------------|-------|------------------|------------------|---------|------------|----------------------|-------------------------|--------------|-------------------|-------------------|---------|----------------|-------------|-------------------------------|
| | | | | | | | | | | | Cost | Benefit | Cost (C) | Benefit (B) | |
| -10 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.5937 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.3579 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -8 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.1436 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -7 | 3.65 | 1.97 | | | 0.00 | 3.65 | | | 0.00 | 1.9487 | 7.11 | 0.00 | 7.11 | 0.00 | -3.85 |
| -6 | 2.28 | 3.20 | | | 0.00 | 2.28 | | | 0.00 | 1.7716 | 4.04 | 0.00 | 11.15 | 0.00 | -2.28 |
| -5 | 8.36 | 7.72 | | | 0.00 | 8.36 | | | 0.00 | 1.6105 | 13.48 | 0.00 | 24.61 | 0.00 | -8.36 |
| -4 | 10.61 | 13.45 | | | 0.00 | 10.61 | | | 0.00 | 1.4641 | 15.53 | 0.00 | 40.14 | 0.00 | -10.61 |
| -3 | 11.43 | 19.62 | | | 0.00 | 11.43 | | | 0.00 | 1.3310 | 15.21 | 0.00 | 55.35 | 0.00 | -11.43 |
| -2 | 8.57 | 24.25 | | | 0.00 | 8.57 | | | 0.00 | 1.2100 | 10.37 | 0.00 | 65.72 | 0.00 | -8.57 |
| -1 | 3.94 | 26.38 | | | 0.00 | 3.94 | | | 0.00 | 1.1000 | 4.33 | 0.00 | 70.05 | 0.00 | -3.94 |
| 0 | | | 17.59 | 25.32 | 17.59 | 8.68 | 37.02 | 45.70 | 1.0000 | 17.59 | 45.70 | 87.64 | 45.70 | | 28.12 |
| 1 | | | 17.59 | 24.27 | 17.59 | 9.57 | 36.33 | 45.90 | 0.9091 | 15.99 | 41.73 | 103.63 | 87.43 | | 28.32 |
| 2 | | | 17.59 | 23.21 | 17.59 | 10.45 | 35.65 | 46.10 | 0.8264 | 14.53 | 38.10 | 118.16 | 125.53 | | 28.51 |
| 3 | | | 17.59 | 22.16 | 17.59 | 11.30 | 34.98 | 46.28 | 0.7513 | 13.21 | 34.77 | 131.37 | 160.30 | | 28.70 |
| 4 | | | 17.59 | 21.10 | 17.59 | 12.13 | 34.32 | 46.45 | 0.6830 | 12.01 | 31.73 | 143.38 | 192.03 | | 28.87 |
| 5 | | | 17.59 | 20.05 | 17.59 | 10.34 | 33.68 | 44.02 | 0.6209 | 10.92 | 27.33 | 154.30 | 219.36 | | 26.43 |
| 6 | | | 17.59 | 18.99 | 17.59 | 10.97 | 33.04 | 44.01 | 0.5645 | 9.93 | 24.84 | 164.23 | 244.20 | | 26.43 |
| 7 | | | 17.59 | 17.94 | 17.59 | 11.57 | 32.43 | 44.00 | 0.5132 | 9.02 | 22.58 | 173.25 | 266.78 | | 26.42 |
| 8 | | | 17.59 | 16.88 | 17.59 | 12.15 | 31.82 | 43.97 | 0.4665 | 8.20 | 20.51 | 181.45 | 287.29 | | 26.39 |
| 9 | | | 17.59 | 15.83 | 17.59 | 12.70 | 31.23 | 43.93 | 0.4241 | 7.46 | 18.63 | 188.91 | 305.92 | | 26.35 |
| 10 | | | 17.59 | 14.77 | 17.59 | 13.24 | 30.65 | 43.89 | 0.3855 | 6.78 | 16.92 | 195.69 | 322.84 | | 26.31 |
| 11 | | | 17.59 | 13.72 | 17.59 | 13.75 | 30.09 | 43.84 | 0.3505 | 6.16 | 15.37 | 201.85 | 338.21 | | 26.26 |
| 12 | | | 17.59 | 12.66 | 17.59 | 14.23 | 29.54 | 43.77 | 0.3186 | 5.60 | 13.95 | 207.45 | 352.16 | | 26.18 |
| 13 | | | 17.59 | 11.61 | 17.59 | 14.70 | 29.01 | 43.71 | 0.2897 | 5.09 | 12.66 | 212.54 | 364.82 | | 26.13 |
| 14 | | | 17.59 | 10.55 | 17.59 | 15.13 | 28.49 | 43.62 | 0.2633 | 4.63 | 11.49 | 217.17 | 376.31 | | 26.04 |
| 15 | | | 17.59 | 9.50 | 17.59 | 15.51 | 28.00 | 43.51 | 0.2394 | 4.21 | 10.42 | 221.38 | 386.73 | | 25.93 |
| 16 | | | 17.59 | 8.44 | 17.59 | 15.89 | 27.51 | 43.40 | 0.2176 | 3.83 | 9.44 | 225.21 | 396.17 | | 25.82 |
| 17 | | | 17.59 | 7.39 | 17.59 | 16.22 | 27.05 | 43.27 | 0.1978 | 3.48 | 8.56 | 228.69 | 404.73 | | 25.68 |
| 18 | | | 17.59 | 6.33 | 17.59 | 16.53 | 26.60 | 43.13 | 0.1799 | 3.16 | 7.76 | 231.85 | 412.49 | | 25.55 |
| 19 | | | 17.59 | 5.28 | 17.59 | 16.78 | 26.18 | 42.96 | 0.1635 | 2.88 | 7.02 | 234.73 | 419.51 | | 25.38 |
| 20 | | | 17.59 | 4.22 | 17.59 | 17.02 | 25.77 | 42.79 | 0.1486 | 2.61 | 6.36 | 237.34 | 425.87 | | 25.21 |
| 21 | | | 17.59 | 3.17 | 17.59 | 17.20 | 25.39 | 42.59 | 0.1351 | 2.38 | 5.75 | 239.72 | 431.62 | | 25.01 |
| 22 | | | 17.59 | 2.11 | 17.59 | 17.36 | 25.01 | 42.37 | 0.1228 | 2.16 | 5.20 | 241.88 | 436.82 | | 24.79 |
| 23 | | | 17.59 | 1.05 | 17.59 | 17.47 | 24.66 | 42.13 | 0.1117 | 1.96 | 4.71 | 243.84 | 441.53 | | 24.54 |
| 24 | | | 17.59 | 0.00 | 17.59 | 17.53 | 24.35 | 41.88 | 0.1015 | 1.78 | 4.25 | 245.62 | 445.78 | | 24.30 |
| 25 | | | | | 0.00 | 16.71 | 25.10 | 41.81 | 0.0923 | 0.00 | 3.86 | 245.62 | 449.64 | | 41.81 |
| 26 | | | | | 0.00 | 15.85 | 25.88 | 41.73 | 0.0839 | 0.00 | 3.50 | 245.62 | 453.14 | | 41.73 |
| 27 | | | | | 0.00 | 14.92 | 26.68 | 41.60 | 0.0763 | 0.00 | 3.17 | 245.62 | 456.31 | | 41.60 |
| 28 | | | | | 0.00 | 13.94 | 27.51 | 41.45 | 0.0693 | 0.00 | 2.87 | 245.62 | 459.18 | | 41.45 |
| 29 | | | | | 0.00 | 12.92 | 28.36 | 41.28 | 0.0630 | 0.00 | 2.60 | 245.62 | 461.78 | | 41.28 |
| 30 | | | | | 0.00 | 11.84 | 29.24 | 41.08 | 0.0573 | 0.00 | 2.35 | 245.62 | 464.13 | | 41.08 |
| 31 | | | | | 0.00 | 10.70 | 30.15 | 40.85 | 0.0521 | 0.00 | 2.13 | 245.62 | 466.26 | | 40.85 |
| 32 | | | | | 0.00 | 9.50 | 31.08 | 40.58 | 0.0474 | 0.00 | 1.92 | 245.62 | 468.18 | | 40.58 |
| 33 | | | | | 0.00 | 8.23 | 32.04 | 40.27 | 0.0431 | 0.00 | 1.74 | 245.62 | 469.92 | | 40.27 |
| 34 | | | | | 0.00 | 6.90 | 33.04 | 39.94 | 0.0391 | 0.00 | 1.56 | 245.62 | 471.48 | | 39.94 |
| 35 | | | | | 0.00 | 5.49 | 34.06 | 39.55 | 0.0356 | 0.00 | 1.41 | 245.62 | 472.89 | | 39.55 |
| 36 | | | | | 0.00 | 4.02 | 35.12 | 39.14 | 0.0323 | 0.00 | 1.26 | 245.62 | 474.15 | | 39.14 |
| 37 | | | | | 0.00 | 2.47 | 36.21 | 38.68 | 0.0294 | 0.00 | 1.14 | 245.62 | 475.29 | | 38.68 |
| 38 | | | | | 0.00 | 0.84 | 37.33 | 38.17 | 0.0267 | 0.00 | 1.02 | 245.62 | 476.31 | | 38.17 |
| 39 | | | | | 0.00 | -1.09 | 38.49 | 37.40 | 0.0243 | 0.00 | 0.91 | 245.62 | 477.22 | | 37.40 |
| 40 | | | | | 0.00 | -3.34 | 39.68 | 36.34 | 0.0221 | 0.00 | 0.80 | 245.62 | 478.02 | | 36.34 |
| 41 | | | | | 0.00 | -5.69 | 40.91 | 35.22 | 0.0201 | 0.00 | 0.71 | 245.62 | 478.73 | | 35.22 |
| 42 | | | | | 0.00 | -8.17 | 42.18 | 34.01 | 0.0183 | 0.00 | 0.62 | 245.62 | 479.35 | | 34.01 |
| 43 | | | | | 0.00 | -10.75 | 43.48 | 32.73 | 0.0166 | 0.00 | 0.54 | 245.62 | 479.89 | | 32.73 |
| 44 | | | | | 0.00 | -13.48 | 44.83 | 31.35 | 0.0151 | 0.00 | 0.47 | 245.62 | 480.36 | | 31.35 |
| 45 | | | | | 0.00 | -16.34 | 46.22 | 29.88 | 0.0137 | 0.00 | 0.41 | 245.62 | 480.77 | | 29.88 |
| 46 | | | | | 0.00 | -19.34 | 47.66 | 28.32 | 0.0125 | 0.00 | 0.35 | 245.62 | 481.12 | | 28.32 |
| 47 | | | | | 0.00 | -22.46 | 49.13 | 26.67 | 0.0113 | 0.00 | 0.30 | 245.62 | 481.42 | | 26.67 |
| 48 | | | | | 0.00 | -25.75 | 50.66 | 24.91 | 0.0103 | 0.00 | 0.26 | 245.62 | 481.68 | | 24.91 |
| 49 | | | | | 0.00 | -29.19 | 52.22 | 23.03 | 0.0094 | 0.00 | 0.22 | 245.62 | 481.90 | | 23.03 |
| Sum | 48.84 | 96.59 | 439.63 | 316.55 | 0.00 | 488.47 | 327.15 | 1676.06 | 2003.21 | | | 245.62 | 481.90 | | 1514.75 |

Note: Financial Generation Cost (FGC) is calculated as below.
 $FGC = NPV(\text{Own Finance} + IDC + \text{Royalty} + \text{O/M Cost} + \text{Prp Repayment} + \text{Interest Payment}) / NPV(\text{Generation Energy})$
 Total Cost does not include IDC and Interest Payment for the purpose of FIRR calculation.

Financial Generation Cost in Year 0 at 10.0% discount rate \$/MWh 54.95

Table 18.3-3 Financial Analysis (1/4) Summary of Financial Analysis

| | | | |
|--|------------------------|-------------------------|-------------------|
| Site Name | | Xe Kaman No1 | |
| Case: - B (Base) | | | |
| Construction Cost | | 1,578.32 US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 256.0 MW | | |
| Generation Energy | 1,137.0 GWh | | |
| Sending-end Energy | 1,011.9 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 404.05 M.US\$ | | |
| After Price Escalation | 488.46 M.US\$ | | |
| Financial Budget | 613.67 M.US\$ | | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 36.64 | 109.90 |
| | Loan Amount | 85.50 | 256.42 |
| | IDC | 31.31 | 93.90 |
| | Royalty | - | 0.00 |
| | Total | 153.45 | 460.22 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indeces | | | |
| Averaged Debt Service Coverage | | 0.83 | |
| Financial Internal Rate of Return | | -13.68% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | | |
| BOT Period | | 25 Years | |
| FIRR for the BOT Period | | 7.97% | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 10.00% | |
| Interest after Operation | | 10.00% | |
| Repayment Period | | 10 yr | |
| Graced Period | | 7 yr | |
| Government Own finance | | 0.00% | |
| Income Statement | | | |
| | | M.US\$ | |
| Sales Revenue | | 3,418.75 | |
| Operating Expense | | 3,075.93 | |
| Financial Expense | | 153.87 | |
| Net Income before Tax | | 188.95 | |
| Income Tax | | (92.56) | |
| Net Income | | 96.39 | |
| To the Government | | | |
| | | M.US\$ | |
| Royalty | | 341.93 | |
| Income Tax | | 92.558 | |
| Interest Payment to Equity | | - | |
| Net Income | | 434.488 | |
| Financial Generation Cost in | | | |
| Year 0 for the project life time | | 74.67 | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.3-3 Financial Analysis (2/4) Construction Disbursement and Loan Amount

Case - B (Base)

| Dam Site: | Xe Kaman No1 | | Equity Proportions | | Price Escalation per annum | | Finance Condition | | Total Construction Cost (M.US\$) | | | | |
|-------------------|---------------|-----------|--------------------|--------------------------|----------------------------|-------------|-------------------|------------------|----------------------------------|---------|---------|---------|--------|
| | Installed | 256.00 MW | Lao PDR | Private | F/C Portion | L/C Portion | 2.8% | IDC | Finance Items | Lao PDR | PRV.SCT | PRV.SCT | Total |
| Generation Energy | 1,137.0 GWh | | | | | | 4.5% | Interest Rate | Own Finance | 36.64 | 109.90 | 109.90 | 146.54 |
| Salable Energy | 1,011.9 GWh | | | Debt/Equity Ratio | | | | Repayment Period | Principal Loan | 85.50 | 256.42 | 256.42 | 341.92 |
| Project Cost | 1578.32 \$/Kw | | | Debt | | | | Graced Period | IDC | 31.31 | 93.90 | 93.90 | 125.21 |
| F/C | 342.44 M.US\$ | | | Equity | Exporting Ratio | | 100.0% | Lao Own Finance | Total | 153.45 | 460.22 | 460.22 | 613.67 |
| L/C | 61.61 M.US\$ | | | Royalty for Construction | Exp. Price (\$/MWh) | | 52.410 | | Equity / Royalty Fee | 36.64 | 0.00 | 0.00 | - |
| Total | 404.05 M.US\$ | | | Royalty from Operation | Dom. Price (\$/MWh) | | 34.330 | | | | | | |

| Year | Disbursement before Escalation | | Price Index | | Disbursement after Escalation | | Total Disburse | | Finance Proportion | | | Own Equity financed by Loan | | | Loan Portion | | | Loan Cumulative | | | IDC | | Royalty Fee | | | | | |
|------|--------------------------------|---------|-------------|---------|-------------------------------|---------|----------------|--------|--------------------|---------|--------|-----------------------------|---------|--------|--------------|---------|--------|-----------------|---------|--------|---------|---------|-------------|--------|--------|------|------|------|
| | for F/C | for L/C | for F/C | for L/C | for F/C | for L/C | M.US\$ | M.US\$ | Lao PDR | PRV.SCT | M.US\$ | Lao Equity | PRV.SCT | M.US\$ | Lao PDR | PRV.SCT | M.US\$ | Lao PDR | PRV.SCT | M.US\$ | Lao PDR | PRV.SCT | M.US\$ | M.US\$ | M.US\$ | | | |
| | M.US\$ | M.US\$ | | | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | | | |
| -10 | 0.00 | 0.00 | 1.0000 | 1.0000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| -9 | 0.00 | 0.00 | 1.0280 | 1.0450 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -8 | 0.00 | 0.00 | 1.0568 | 1.0920 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -7 | 25.65 | 7.60 | 1.0864 | 1.1412 | 27.87 | 8.67 | 36.54 | 9.14 | 27.40 | 0.00 | 2.74 | 8.22 | 6.40 | 19.18 | 5.40 | 19.18 | 5.40 | 19.18 | 5.40 | 19.18 | 5.40 | 19.18 | 5.40 | 1.92 | 0.00 | 0.00 | 0.00 | |
| -6 | 16.20 | 3.94 | 1.1168 | 1.1925 | 18.09 | 4.70 | 22.79 | 5.70 | 17.09 | 0.00 | 1.71 | 5.13 | 3.99 | 11.96 | 10.39 | 31.14 | 1.04 | 1.04 | 3.11 | 3.11 | 10.39 | 31.14 | 1.04 | 3.11 | 0.00 | 0.00 | 0.00 | |
| -5 | 60.58 | 11.29 | 1.1481 | 1.2462 | 69.55 | 14.07 | 83.62 | 20.91 | 62.71 | 0.00 | 6.27 | 18.81 | 14.64 | 43.90 | 25.03 | 75.04 | 2.50 | 2.50 | 7.50 | 7.50 | 25.03 | 75.04 | 2.50 | 7.50 | 0.00 | 0.00 | 0.00 | |
| -4 | 75.44 | 13.09 | 1.1802 | 1.3023 | 89.03 | 17.05 | 106.08 | 26.52 | 79.56 | 0.00 | 7.96 | 23.87 | 18.56 | 55.69 | 43.59 | 130.73 | 4.36 | 4.36 | 13.07 | 13.07 | 43.59 | 130.73 | 4.36 | 13.07 | 0.00 | 0.00 | 0.00 | |
| -3 | 79.72 | 12.95 | 1.2133 | 1.3609 | 96.72 | 17.62 | 114.34 | 28.59 | 85.75 | 0.00 | 8.58 | 25.73 | 20.01 | 60.02 | 63.50 | 190.75 | 6.36 | 6.36 | 19.08 | 19.08 | 63.50 | 190.75 | 6.36 | 19.08 | 0.00 | 0.00 | 0.00 | |
| -2 | 58.04 | 9.39 | 1.2472 | 1.4221 | 72.39 | 13.35 | 85.74 | 21.44 | 64.30 | 0.00 | 6.43 | 19.29 | 15.01 | 45.01 | 78.61 | 235.76 | 7.86 | 7.86 | 23.58 | 23.58 | 78.61 | 235.76 | 7.86 | 23.58 | 0.00 | 0.00 | 0.00 | |
| -1 | 26.81 | 3.35 | 1.2821 | 1.4861 | 34.37 | 4.98 | 39.35 | 9.84 | 29.51 | 0.00 | 2.95 | 8.85 | 6.89 | 20.66 | 85.50 | 256.42 | 8.55 | 8.55 | 25.64 | 25.64 | 85.50 | 256.42 | 8.55 | 25.64 | 0.00 | 0.00 | 0.00 | |
| 0 | 0.00 | 0.00 | 1.3180 | 1.5530 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sum | 342.44 | 61.61 | | | 408.02 | 80.44 | 488.46 | 122.14 | 366.32 | 0.00 | 36.64 | 109.90 | 85.50 | 256.42 | 31.31 | 93.90 | 31.31 | 31.31 | 93.90 | 93.90 | 31.31 | 93.90 | 31.31 | 93.90 | 0.00 | 0.00 | 0.00 | 0.00 |

Table 18.3-3 Financial Analysis (3/4) Income Statement

| Case: B (Base) | | Xe Karman No1 | | Exporting Ratio | | 100.0% | | Exp. Price (\$/MWh) | | 52.41 | | O/M cost | | 1.5% of T. Disb | | Income Tax | | 20.0% | | Initial F.A. (M.US\$) | | 513.67 | |
|-------------------|-----------------|---------------|----------|---------------------|----------|--------|----------|---------------------|----------------------|--------------|--------------------|----------------------|---------------------|----------------------|------------------|------------------------|------------|----------------------|-----------------------|---------------------------|--------------|---------|------|
| Darn Site: | | 258 MW | | Domestic Use | | 0.0% | | Dom. Price (\$/MWh) | | 34.33 | | Fuel Cost | | 0.00 | | Royalty from Operation | | 10.0% | | Life Time (Years) | | 50 | |
| Generation Energy | | 1137.0 GWh | | Increase of D/Use | | 2.0% | | Exp. Escalation | | 1.00% | | 1.00% P Repay. | | Lao PDR | | Private | | 25.0% | | Initial Dep. (M.US\$) | | 12.27 | |
| Salable Energy | | 1011.9 GWh | | Financial Condition | | 10 | | Dom. Escalation | | 1.00% | | 34.19 MU.S\$.pa | | Dividend | | Escalation | | 75.0% | | F/C Escalation | | 2.8% | |
| Construction Cost | | 404.05 M.US\$ | | Interest Rate (%) | | 10 | | Repayment P. (Yr) | | 10 | | | | | | | | 2.5% | | L/C Escalation | | 4.5% | |
| | | | | | | | | | | | | | | | | | | | | Equiv. Escalation | | 3.1% | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| Year | Selling Revenue | Selling Price | Domestic | Export | Domestic | Export | O/M Cost | Royalty | Y. Start Fixed Asset | Depreciation | Y. End Fixed Asset | Net Operation Income | Principal Repayment | Cum. of P. Repayment | Interest Payment | Income before Tax | Income Tax | Net Income after Tax | Current Asset in Cash | Debt Service Ratio | Export Price | DSC=1.5 | |
| | GWh | \$/MWh | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | | | | |
| 0 | 1011.9 | 0.0 | 52.41 | 34.33 | 53.03 | 7.33 | 5.30 | 613.67 | 12.27 | 601.40 | 28.13 | 34.19 | 30.77 | -2.64 | -2.64 | 0.54 | 40.40 | 0.62 | 108.78 | | | | |
| 1 | 1011.9 | 0.0 | 52.93 | 34.67 | 53.56 | 7.66 | 5.36 | 620.04 | 12.65 | 607.39 | 27.89 | 34.19 | 68.38 | 0.54 | 0.54 | 3.71 | 40.54 | 0.66 | 104.09 | | | | |
| 2 | 1011.9 | 0.0 | 53.46 | 35.02 | 54.10 | 8.00 | 5.41 | 628.22 | 13.05 | 613.17 | 27.64 | 34.19 | 102.58 | 0.54 | 0.54 | 6.85 | 40.68 | 0.70 | 99.41 | | | | |
| 3 | 1011.9 | 0.0 | 54.00 | 35.37 | 54.64 | 8.36 | 5.46 | 636.18 | 13.45 | 618.73 | 27.37 | 34.19 | 136.77 | 0.54 | 0.54 | 9.96 | 40.82 | 0.75 | 94.76 | | | | |
| 4 | 1011.9 | 0.0 | 54.54 | 35.72 | 55.19 | 8.74 | 5.52 | 637.91 | 13.87 | 624.04 | 27.06 | 34.19 | 170.96 | 0.54 | 0.54 | 13.06 | 40.93 | 0.80 | 90.13 | | | | |
| 5 | 1011.9 | 0.0 | 55.08 | 36.08 | 55.74 | 9.13 | 5.57 | 643.39 | 14.30 | 629.09 | 26.74 | 34.19 | 205.15 | 0.54 | 0.54 | 16.12 | 41.04 | 0.86 | 85.49 | | | | |
| 6 | 1011.9 | 0.0 | 55.63 | 36.44 | 56.29 | 9.54 | 5.63 | 648.59 | 14.74 | 633.85 | 26.38 | 34.19 | 239.34 | 0.54 | 0.54 | 19.18 | 41.12 | 0.93 | 80.89 | | | | |
| 7 | 1011.9 | 0.0 | 56.19 | 36.81 | 56.86 | 9.97 | 5.69 | 653.50 | 15.20 | 638.30 | 26.00 | 34.19 | 273.54 | 0.54 | 0.54 | 22.18 | 41.20 | 1.00 | 76.30 | | | | |
| 8 | 1011.9 | 0.0 | 56.75 | 37.18 | 57.43 | 10.42 | 5.74 | 658.09 | 15.67 | 642.42 | 25.60 | 34.19 | 307.73 | 0.54 | 0.54 | 25.16 | 41.27 | 1.10 | 71.72 | | | | |
| 9 | 1011.9 | 0.0 | 57.32 | 37.55 | 58.00 | 10.89 | 5.80 | 662.34 | 16.15 | 646.19 | 25.16 | 34.19 | 341.92 | 0.54 | 0.54 | 28.16 | 41.34 | 1.21 | 67.18 | | | | |
| 10 | 1011.9 | 0.0 | 57.89 | 37.92 | 58.56 | 11.38 | 5.86 | 666.22 | 16.66 | 649.58 | 24.68 | 0.00 | 341.92 | 0.00 | 0.00 | 31.16 | 41.34 | 1.21 | 67.18 | | | | |
| 11 | 1011.9 | 0.0 | 58.47 | 38.30 | 59.17 | 11.89 | 5.92 | 669.70 | 17.17 | 652.53 | 24.19 | 0.00 | 341.92 | 0.00 | 0.00 | 34.16 | 41.36 | 1.21 | 67.18 | | | | |
| 12 | 1011.9 | 0.0 | 59.06 | 38.68 | 59.76 | 12.43 | 5.98 | 672.76 | 17.70 | 655.06 | 23.65 | 0.00 | 341.92 | 0.00 | 0.00 | 37.16 | 41.35 | 1.21 | 67.18 | | | | |
| 13 | 1011.9 | 0.0 | 59.65 | 39.07 | 60.36 | 12.98 | 6.04 | 675.37 | 18.25 | 657.12 | 23.09 | 0.00 | 341.92 | 0.00 | 0.00 | 40.16 | 41.34 | 1.21 | 67.18 | | | | |
| 14 | 1011.9 | 0.0 | 60.25 | 39.48 | 60.97 | 13.57 | 6.10 | 677.49 | 18.82 | 658.67 | 22.48 | 0.00 | 341.92 | 0.00 | 0.00 | 43.16 | 41.34 | 1.21 | 67.18 | | | | |
| 15 | 1011.9 | 0.0 | 60.85 | 39.86 | 61.57 | 14.18 | 6.16 | 679.09 | 19.40 | 659.69 | 21.83 | 0.00 | 341.92 | 0.00 | 0.00 | 46.16 | 41.30 | 1.21 | 67.18 | | | | |
| 16 | 1011.9 | 0.0 | 61.45 | 40.26 | 62.19 | 14.82 | 6.22 | 680.14 | 20.00 | 660.14 | 21.15 | 0.00 | 341.92 | 0.00 | 0.00 | 49.16 | 41.23 | 1.21 | 67.18 | | | | |
| 17 | 1011.9 | 0.0 | 62.07 | 40.66 | 62.81 | 15.48 | 6.28 | 680.60 | 20.62 | 659.98 | 20.43 | 0.00 | 341.92 | 0.00 | 0.00 | 52.16 | 41.15 | 1.21 | 67.18 | | | | |
| 18 | 1011.9 | 0.0 | 62.69 | 41.06 | 63.44 | 16.18 | 6.34 | 680.44 | 21.26 | 659.18 | 19.66 | 0.00 | 341.92 | 0.00 | 0.00 | 55.16 | 40.92 | 1.21 | 67.18 | | | | |
| 19 | 1011.9 | 0.0 | 63.32 | 41.47 | 64.07 | 16.91 | 6.41 | 679.61 | 21.92 | 657.69 | 18.83 | 0.00 | 341.92 | 0.00 | 0.00 | 58.16 | 40.75 | 1.21 | 67.18 | | | | |
| 20 | 1011.9 | 0.0 | 63.95 | 41.89 | 64.71 | 17.67 | 6.47 | 678.08 | 22.60 | 655.48 | 17.97 | 0.00 | 341.92 | 0.00 | 0.00 | 61.16 | 40.57 | 1.21 | 67.18 | | | | |
| 21 | 1011.9 | 0.0 | 64.59 | 42.31 | 65.36 | 18.47 | 6.54 | 675.80 | 23.30 | 652.50 | 17.05 | 0.00 | 341.92 | 0.00 | 0.00 | 64.16 | 40.35 | 1.21 | 67.18 | | | | |
| 22 | 1011.9 | 0.0 | 65.23 | 42.73 | 66.01 | 19.30 | 6.60 | 672.73 | 24.03 | 646.70 | 16.08 | 0.00 | 341.92 | 0.00 | 0.00 | 67.16 | 40.11 | 1.21 | 67.18 | | | | |
| 23 | 1011.9 | 0.0 | 65.89 | 43.16 | 66.67 | 20.17 | 6.67 | 668.81 | 24.77 | 644.04 | 15.06 | 0.00 | 341.92 | 0.00 | 0.00 | 70.16 | 39.83 | 1.21 | 67.18 | | | | |
| 24 | 1011.9 | 0.0 | 66.54 | 43.59 | 67.33 | 21.07 | 6.73 | 664.01 | 25.54 | 638.47 | 13.99 | 0.00 | 341.92 | 0.00 | 0.00 | 73.16 | 39.53 | 1.21 | 67.18 | | | | |
| Sum | | | | | | | | | 1425.11 | | 342.82 | | 341.92 | | 153.87 | 189.95 | 92.558 | 96.392 | 1768.93 | | | | |
| | | | | | | | | | | | | | | | | | | | | Average DSC for Repayment | | | 0.93 |

Note: Net Operation Income = Sales Revenue - O/M Cost - Royalty - Depreciation

Income before Tax = Net Operation Income - Interest Payment

Current Asset in Cash = Net Operation Income + Depreciation

Debt Service Ratio = Current Asset in Cash / (Principal Repay. + Interest Payment)

The year 25 onwards are not printed in the above table intentionally.

Table 18.3-3 Financial Analysis (4/4) Financial Internal Rate of Return

Case - B (Base)

| Dam Site: Xe Kaman No1 | | Equity Proportions | | Total construction Cost (M.US\$) | | | Discount Rate | | |
|------------------------|---------------|-----------------------|-------|----------------------------------|---------|---------|---------------|--------------------|---------|
| Install Capacity | 256 MW | Lao PDR | 25.0% | Finance Items | LAO PDR | PRV SCT | Total | Discounted to Year | |
| Generation Energy | 1137 GWh | Private | 75.0% | Own Finance | 36.64 | 109.9 | 146.54 | B(enefit) | 415.6 |
| Construction Cost | 404.05 M.US\$ | Royalty from Operatio | 10.0% | Principal Loan | 85.5 | 256.42 | 341.92 | C(cost) | 441.34 |
| | | Lao PDR | 25.0% | IDC | 31.31 | 93.9 | 125.21 | B/C | 0.94 |
| | | Private | 75.0% | Total | 153.45 | 460.22 | 613.67 | FIRR for the Year | 9 |
| | | Equity / Royalty Fee | | | 36.64 | 0 | | FIRR | -13.68% |

(Unit M.US\$)

| Year | Own Finance | IDC | Principal Repay. | Interest Payment | Royalty | Total Cost | Net Income after Tax | Depreciation + Interest | Total Income | NPV Convert Index | Net Present Value | | NPV Cumulative | | Balance B - C before Discount |
|------|-------------|--------|------------------|------------------|---------|------------|----------------------|-------------------------|--------------|-------------------|-------------------|---------|----------------|-------------|-------------------------------|
| | | | | | | | | | | | Cost | Benefit | Cost (C) | Benefit (B) | |
| -10 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.5937 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.3579 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -8 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.1436 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -7 | 10.96 | 2.56 | | | 0.00 | 10.96 | | | 0.00 | 1.9487 | 21.36 | 0.00 | 21.36 | 0.00 | -10.96 |
| -6 | 6.84 | 4.15 | | | 0.00 | 6.84 | | | 0.00 | 1.7716 | 12.12 | 0.00 | 33.48 | 0.00 | -6.84 |
| -5 | 25.08 | 10.00 | | | 0.00 | 25.08 | | | 0.00 | 1.6105 | 40.39 | 0.00 | 73.87 | 0.00 | -25.08 |
| -4 | 31.83 | 17.43 | | | 0.00 | 31.83 | | | 0.00 | 1.4641 | 46.60 | 0.00 | 120.47 | 0.00 | -31.83 |
| -3 | 34.31 | 25.44 | | | 0.00 | 34.31 | | | 0.00 | 1.3310 | 45.67 | 0.00 | 166.14 | 0.00 | -34.31 |
| -2 | 25.72 | 31.44 | | | 0.00 | 25.72 | | | 0.00 | 1.2100 | 31.12 | 0.00 | 197.26 | 0.00 | -25.72 |
| -1 | 11.80 | 34.19 | | | 0.00 | 11.80 | | | 0.00 | 1.1000 | 12.98 | 0.00 | 210.24 | 0.00 | -11.80 |
| 0 | | | 34.19 | 30.77 | | 34.19 | -2.64 | 43.04 | 40.40 | 1.0000 | 34.19 | 40.40 | 244.43 | 40.40 | 6.21 |
| 1 | | | 34.19 | 27.35 | | 34.19 | 0.54 | 40.00 | 40.54 | 0.9091 | 31.08 | 36.85 | 275.51 | 77.25 | 6.35 |
| 2 | | | 34.19 | 23.93 | | 34.19 | 3.71 | 36.98 | 40.69 | 0.8264 | 28.26 | 33.63 | 303.77 | 110.88 | 6.60 |
| 3 | | | 34.19 | 20.52 | | 34.19 | 6.85 | 33.97 | 40.82 | 0.7513 | 25.69 | 30.67 | 329.46 | 141.55 | 6.63 |
| 4 | | | 34.19 | 17.10 | | 34.19 | 9.96 | 30.97 | 40.93 | 0.6830 | 23.35 | 27.96 | 352.81 | 169.51 | 6.74 |
| 5 | | | 34.19 | 13.68 | | 34.19 | 10.45 | 27.98 | 38.43 | 0.6209 | 21.23 | 23.86 | 374.04 | 193.37 | 4.24 |
| 6 | | | 34.19 | 10.26 | | 34.19 | 12.90 | 25.00 | 37.90 | 0.5645 | 19.30 | 21.39 | 393.34 | 214.76 | 3.71 |
| 7 | | | 34.19 | 6.84 | | 34.19 | 15.33 | 22.04 | 37.37 | 0.5132 | 17.55 | 19.18 | 410.69 | 233.94 | 3.18 |
| 8 | | | 34.19 | 3.42 | | 34.19 | 17.74 | 19.09 | 36.83 | 0.4665 | 15.95 | 17.18 | 426.84 | 251.12 | 2.64 |
| 9 | | | 34.19 | 0.00 | | 34.19 | 20.13 | 16.15 | 36.28 | 0.4241 | 14.50 | 15.39 | 441.34 | 266.51 | 2.09 |
| 10 | | | 0.00 | 0.00 | | 0.00 | 19.74 | 16.66 | 36.40 | 0.3855 | 0.00 | 14.03 | 441.34 | 280.54 | 36.40 |
| 11 | | | 0.00 | 0.00 | | 0.00 | 19.35 | 17.17 | 36.52 | 0.3505 | 0.00 | 12.80 | 441.34 | 293.34 | 36.52 |
| 12 | | | 0.00 | 0.00 | | 0.00 | 18.92 | 17.70 | 36.62 | 0.3186 | 0.00 | 11.67 | 441.34 | 305.01 | 36.62 |
| 13 | | | 0.00 | 0.00 | | 0.00 | 18.47 | 18.25 | 36.72 | 0.2897 | 0.00 | 10.64 | 441.34 | 315.65 | 36.72 |
| 14 | | | 0.00 | 0.00 | | 0.00 | 17.98 | 18.82 | 36.80 | 0.2633 | 0.00 | 9.69 | 441.34 | 325.34 | 36.80 |
| 15 | | | 0.00 | 0.00 | | 0.00 | 17.46 | 19.40 | 36.86 | 0.2394 | 0.00 | 8.82 | 441.34 | 334.16 | 36.86 |
| 16 | | | 0.00 | 0.00 | | 0.00 | 16.92 | 20.00 | 36.92 | 0.2176 | 0.00 | 8.03 | 441.34 | 342.19 | 36.92 |
| 17 | | | 0.00 | 0.00 | | 0.00 | 16.34 | 20.62 | 36.96 | 0.1978 | 0.00 | 7.31 | 441.34 | 349.50 | 36.96 |
| 18 | | | 0.00 | 0.00 | | 0.00 | 15.73 | 21.26 | 36.99 | 0.1799 | 0.00 | 6.65 | 441.34 | 356.15 | 36.99 |
| 19 | | | 0.00 | 0.00 | | 0.00 | 15.06 | 21.92 | 36.98 | 0.1635 | 0.00 | 6.05 | 441.34 | 362.20 | 36.98 |
| 20 | | | 0.00 | 0.00 | | 0.00 | 14.38 | 22.60 | 36.98 | 0.1486 | 0.00 | 5.50 | 441.34 | 367.70 | 36.98 |
| 21 | | | 0.00 | 0.00 | | 0.00 | 13.64 | 23.30 | 36.94 | 0.1351 | 0.00 | 4.99 | 441.34 | 372.69 | 36.94 |
| 22 | | | 0.00 | 0.00 | | 0.00 | 12.86 | 24.03 | 36.89 | 0.1228 | 0.00 | 4.53 | 441.34 | 377.22 | 36.89 |
| 23 | | | 0.00 | 0.00 | | 0.00 | 12.05 | 24.77 | 36.82 | 0.1117 | 0.00 | 4.11 | 441.34 | 381.33 | 36.82 |
| 24 | | | 0.00 | 0.00 | | 0.00 | 11.19 | 25.54 | 36.73 | 0.1015 | 0.00 | 3.73 | 441.34 | 385.06 | 36.73 |
| 25 | | | 0.00 | 0.00 | | 0.00 | 10.29 | 26.33 | 36.62 | 0.0923 | 0.00 | 3.38 | 441.34 | 388.44 | 36.62 |
| 26 | | | 0.00 | 0.00 | | 0.00 | 9.34 | 27.15 | 36.49 | 0.0839 | 0.00 | 3.06 | 441.34 | 391.50 | 36.49 |
| 27 | | | 0.00 | 0.00 | | 0.00 | 8.32 | 27.99 | 36.31 | 0.0763 | 0.00 | 2.77 | 441.34 | 394.27 | 36.31 |
| 28 | | | 0.00 | 0.00 | | 0.00 | 7.26 | 28.86 | 36.12 | 0.0693 | 0.00 | 2.50 | 441.34 | 396.77 | 36.12 |
| 29 | | | 0.00 | 0.00 | | 0.00 | 6.14 | 29.75 | 35.89 | 0.0630 | 0.00 | 2.26 | 441.34 | 399.03 | 35.89 |
| 30 | | | 0.00 | 0.00 | | 0.00 | 4.98 | 30.67 | 35.65 | 0.0573 | 0.00 | 2.04 | 441.34 | 401.07 | 35.65 |
| 31 | | | 0.00 | 0.00 | | 0.00 | 3.74 | 31.62 | 35.36 | 0.0521 | 0.00 | 1.84 | 441.34 | 402.91 | 35.36 |
| 32 | | | 0.00 | 0.00 | | 0.00 | 2.44 | 32.61 | 35.05 | 0.0474 | 0.00 | 1.66 | 441.34 | 404.57 | 35.05 |
| 33 | | | 0.00 | 0.00 | | 0.00 | 1.07 | 33.62 | 34.69 | 0.0431 | 0.00 | 1.50 | 441.34 | 406.07 | 34.69 |
| 34 | | | 0.00 | 0.00 | | 0.00 | -0.44 | 34.66 | 34.22 | 0.0391 | 0.00 | 1.34 | 441.34 | 407.41 | 34.22 |
| 35 | | | 0.00 | 0.00 | | 0.00 | -2.32 | 35.73 | 33.41 | 0.0356 | 0.00 | 1.19 | 441.34 | 408.60 | 33.41 |
| 36 | | | 0.00 | 0.00 | | 0.00 | -4.29 | 36.84 | 32.55 | 0.0323 | 0.00 | 1.05 | 441.34 | 409.65 | 32.55 |
| 37 | | | 0.00 | 0.00 | | 0.00 | -6.34 | 37.98 | 31.64 | 0.0294 | 0.00 | 0.93 | 441.34 | 410.58 | 31.64 |
| 38 | | | 0.00 | 0.00 | | 0.00 | -8.52 | 39.16 | 30.64 | 0.0267 | 0.00 | 0.82 | 441.34 | 411.40 | 30.64 |
| 39 | | | 0.00 | 0.00 | | 0.00 | -10.79 | 40.37 | 29.58 | 0.0243 | 0.00 | 0.72 | 441.34 | 412.12 | 29.58 |
| 40 | | | 0.00 | 0.00 | | 0.00 | -13.19 | 41.63 | 28.44 | 0.0221 | 0.00 | 0.63 | 441.34 | 412.75 | 28.44 |
| 41 | | | 0.00 | 0.00 | | 0.00 | -15.67 | 42.91 | 27.24 | 0.0201 | 0.00 | 0.55 | 441.34 | 413.30 | 27.24 |
| 42 | | | 0.00 | 0.00 | | 0.00 | -18.30 | 44.25 | 25.95 | 0.0183 | 0.00 | 0.47 | 441.34 | 413.77 | 25.95 |
| 43 | | | 0.00 | 0.00 | | 0.00 | -21.03 | 45.62 | 24.59 | 0.0166 | 0.00 | 0.41 | 441.34 | 414.18 | 24.59 |
| 44 | | | 0.00 | 0.00 | | 0.00 | -23.90 | 47.03 | 23.13 | 0.0151 | 0.00 | 0.35 | 441.34 | 414.53 | 23.13 |
| 45 | | | 0.00 | 0.00 | | 0.00 | -26.91 | 48.49 | 21.58 | 0.0137 | 0.00 | 0.30 | 441.34 | 414.83 | 21.58 |
| 46 | | | 0.00 | 0.00 | | 0.00 | -30.05 | 49.99 | 19.94 | 0.0125 | 0.00 | 0.25 | 441.34 | 415.08 | 19.94 |
| 47 | | | 0.00 | 0.00 | | 0.00 | -33.34 | 51.54 | 18.20 | 0.0113 | 0.00 | 0.21 | 441.34 | 415.29 | 18.20 |
| 48 | | | 0.00 | 0.00 | | 0.00 | -36.78 | 53.14 | 16.36 | 0.0103 | 0.00 | 0.17 | 441.34 | 415.46 | 16.36 |
| 49 | | | 0.00 | 0.00 | | 0.00 | -40.39 | 54.78 | 14.39 | 0.0094 | 0.00 | 0.14 | 441.34 | 415.60 | 14.39 |
| Sum | 146.54 | 125.21 | 341.92 | 153.87 | 0.00 | 488.46 | 96.38 | 1579.98 | 1676.36 | | 441.34 | 415.60 | | | 1187.90 |

Note: Financial Generation Cost (FGC) is calculated as below.
 FGC=NPV(Own Finance + IDC + Royalty + O/M Cost + Prc Repayment + Interest Payment)
 / NPV(Generation Energy)
 Total Cost does not include IDC and Interest Payment for the purpose of FIRR calculation.

Financial Generation Cost in Year 0 at 10.0% discount rate **74.87 \$/MWh**

Table 18.3-4 Financial Analysis

Summary of Financial Analysis

| | | | |
|--|-------------------------|----------------------|-------------------|
| Site Name | | Xe Kaman No.1 | |
| Case: - A (Case 1: Allocated T/L system) | | | |
| Construction Cost | 1,691.13 US\$/kW | | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 256.0 MW | | |
| Generation Energy | 1,137.0 GWh | | |
| Sending-end Energy | 1,011.9 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 432.93 M.US\$ | | |
| After Price Escalation | 523.26 M.US\$ | | |
| Financial Budget | 626.72 M.US\$ | | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 52.34 | 0.00 |
| | Loan Amount | 470.92 | -0.00 |
| | IDC | 103.46 | 0.00 |
| | Royalty | - | 0.00 |
| | Total | 626.72 | -0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |
| Financial Indexes | | | |
| Averaged Debt Service Coverage | | 1.42 | |
| Financial Internal Rate of Return | | 25.37% | |
| FIRR Calculation Period | | 25 years | |
| BOT Period | | -- Years | |
| FIRR for the BOT Period | | - | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 6.00% | |
| Interest after Operation | | 6.00% | |
| Repayment Period | | 25 yr | |
| Graced Period | | 7 yr | |
| Government Own finance | | 10.00% | |
| Income Statement M.US\$ | | | |
| Sales Revenue | | 3,418.75 | |
| Operating Expense | | 2,857.44 | |
| Financial Expense | | 339.00 | |
| Net Income before Tax | | 222.31 | |
| Income Tax | | (84.68) | |
| Net Income | | 137.63 | |
| To the Government M.US\$ | | | |
| Royalty | | 0 | |
| Income Tax | | 84.682 | |
| Interest Payment to Equity | | - | |
| Net Income | | 84.682 | |
| Financial Generation Cost in Year 0 for the project life time | | 58.85 | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.3-5 Financial Analysis Summary of Financial Analysis

| | | | |
|--|------------------------|----------------------|-------------------|
| Site Name | | Xe Kaman No.1 | |
| Case: - A (Case 2: Independent T/L) | | | |
| Construction Cost | 1,726.95 | US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 256.0 MW | | |
| Generation Energy | 1,137.0 GWh | | |
| Sending-end Energy | 1,011.9 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 442.10 | M.US\$ | |
| After Price Escalation | 534.32 | M.US\$ | |
| Financial Budget | 639.95 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 53.44 | 0.00 |
| | Loan Amount | 480.88 | -0.00 |
| | IDC | 105.63 | 0.00 |
| | Royalty | - | 0.00 |
| | Total | 639.95 | -0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |
| Financial Indices | | | |
| Averaged Debt Service Coverage | | 1.38 | |
| Financial Internal Rate of Return | | 24.73% | |
| FIRR Calculation Period | | 25 years | |
| BOT Period | | | |
| FIRR for the BOT Period | | -- Years | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 6.00% | |
| Interest after Operation | | 6.00% | |
| Repayment Period | | 25 yr | |
| Graced Period | | 7 yr | |
| Government Own finance | | 10.00% | |
| Income Statement | | | |
| | | | M.US\$ |
| Sales Revenue | | 3,418.75 | |
| Operating Expense | | 2,917.79 | |
| Financial Expense | | 346.23 | |
| Net Income before Tax | | 154.73 | |
| Income Tax | | (77.95) | |
| Net Income | | 76.78 | |
| To the Government | | | |
| | | | M.US\$ |
| Royalty | | 0 | |
| Income Tax | | 77.952 | |
| Interest Payment to Equity | | - | |
| Net Income | | 77.952 | |
| Financial Generation Cost in | | | |
| Year 0 for the project life time | | 60.1 | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.3-6 Financial Analysis

Summary of Financial Analysis

| | | | |
|---|------------------------|---------------------|-------------------|
| Site Name | | Xe Kaman No1 | |
| Case: - B (Case 1: Allocated T/L system) | | | |
| Construction Cost | 1,691.13 | US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 256.0 MW | | |
| Generation Energy | 1,137.0 GWh | | |
| Sending-end Energy | 1,011.9 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 432.93 | M.US\$ | |
| After Price Escalation | 523.26 | M.US\$ | |
| Financial Budget | 657.36 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 39.25 | 117.73 |
| | Loan Amount | 91.57 | 274.71 |
| | IDC | 33.53 | 100.57 |
| | Royalty | - | 0.00 |
| | Total | 164.35 | 493.01 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indices | | | |
| Averaged Debt Service Coverage | | 0.76 | |
| Financial Internal Rate of Return | | -31.25% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | | |
| BOT Period | | 25 Years | |
| FIRR for the BOT Period | | 6.83% | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 10.00% | |
| Interest after Operation | | 10.00% | |
| Repayment Period | | 10 yr | |
| Graced Period | | 7 yr | |
| Government Own finance | | 0.00% | |
| Income Statement | | | |
| | | M.US\$ | |
| Sales Revenue | | 3,418.75 | |
| Operating Expense | | 3,270.55 | |
| Financial Expense | | 164.83 | |
| Net Income before Tax | | (16.63) | |
| Income Tax | | (76.20) | |
| Net Income | | (92.83) | |
| To the Government | | | |
| | | M.US\$ | |
| Royalty | | 341.93 | |
| Income Tax | | 76.196 | |
| Interest Payment to Equity | | - | |
| Net Income | | 418.126 | |
| Financial Generation Cost in | | | |
| Year 0 for the project life time | | 79.61 | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.3-7 Financial Analysis Summary of Financial Analysis

| | | | | | |
|---|--|-----------------------|-------------------|--|--|
| Site Name | | Xe Kaman No1 | | Financial Indexes | |
| Case: - B (Case 2: Independent T/L) | | | | Averaged Debt Service Coverage | |
| Construction Cost | | | | 0.74 | |
| 1,726.95 US\$/kW | | | | Financial Internal Rate of Return | |
| | | | | NA | |
| Equity Share | | Lao PDR | Private S. | FIRR Calculation Period | |
| | | 25.0% | 75.0% | 10 years | |
| Debt / Equity | | Debt | Equity | BOT Period | |
| | | 70.0% | 30.0% | 25 Years | |
| Installed Capacity | | 256.0 MW | | FIRR for the BOT Period | |
| Generation Energy | | 1,137.0 GWh | | 6.48% | |
| Sending-end Energy | | 1,011.9 GWh | | General Inflation | |
| Construction Cost | | | | Foreign | |
| Before Price Escalation | | 442.10 M.US\$ | | Domestic | |
| After Price Escalation | | 534.32 M.US\$ | | 2.80% | |
| Financial Budget | | 671.27 M.US\$ | | 4.50% | |
| | | | | Financial Conditions | |
| | | | | Interest Rate for IDC | |
| | | | | 10.00% | |
| | | | | Interest after Operation | |
| | | | | 10.00% | |
| | | | | Repayment Period | |
| | | | | 10 yr | |
| | | | | Graced Period | |
| | | | | 7 yr | |
| | | | | Government Own finance | |
| | | | | 0.00% | |
| | | | | Income Statement | |
| | | | | M.US\$ | |
| | | | | Sales Revenue | |
| | | | | 3,418.75 | |
| | | | | Operating Expense | |
| | | | | 3,332.51 | |
| | | | | Financial Expense | |
| | | | | 168.30 | |
| | | | | Net Income before Tax | |
| | | | | (82.06) | |
| | | | | Income Tax | |
| | | | | (71.46) | |
| | | | | Net Income | |
| | | | | (153.52) | |
| Export/Domestic Ratio for Salable Energy | | | | To the Government | |
| Export | | 100.0% | | M.US\$ | |
| Domestic | | 0.0% | | Royalty | |
| | | | | 341.93 | |
| Initial Power Tariff at year 0 | | | | Income Tax | |
| Export | | 52.41 US\$/MWh | | 71.462 | |
| Domestic | | 34.33 US\$/MWh | | Interest Payment to Equity | |
| | | | | - | |
| Power Tariff Escalation | | | | Net Income | |
| Export | | 1.00% | | 413.392 | |
| Domestic | | 1.00% | | | |
| Increase of Domestic Demand | | 2.00% | | | |
| Royalty for Construction Period | | 0.00% | | | |
| Royalty from Operation onwards | | 10.00% | | | |
| | | | | Financial Generation Cost in | |
| | | | | Year 0 for the project life time | |
| | | | | 81.19 | |
| | | | | 10.0% Discount Rate | |
| | | | | \$/MWh | |

18.4 Xe Namnoy計画

18.4.1 Xe Namnoy (Midstream + Downstream)

(1) Xe Namnoy (Midstream + Downstream) の基本条件

このプロジェクトは以下の特性を有する。

- 設備出力 305 MW
- 常時出力 296 MW
- 販売電力量 1,231.8 GWh
- 建設費 433.22M. US\$

詳細はTable 18.4-1に掲げる。

(2) 財務分析の結果と感度分析

a) Case-A

下表に結果を、また Table 18.4-2、Table 18.4-4 および Table 18.4-5 により詳細な情報を示す。

| Case | DSC | FIRR | Levelized Financial Generation Cost * |
|--------|------|---------|---------------------------------------|
| Base | 1.75 | 37.28 % | 46.51 \$/MWh |
| Case 1 | 1.59 | 34.12 % | 50.19 \$/MWh |
| Case 2 | 1.61 | 34.62 % | 49.60 \$/MWh |

* プロジェクト寿命 (50年) と10%の割引率を使用

DSCとFIRRはプロジェクトが財務的に健全に運営されるであろうことを示している。

b) Case-B

下表に結果を、また Table 18.4-3、Table 18.4-6 および Table 18.4-7 により詳細な情報を示す。

| Case | DSC | FIRR | Levelized Financial Generation Cost * | FIRR for BOT Period (25 years) |
|--------|------|----------|---------------------------------------|--------------------------------|
| Base | 0.93 | - 6.58 % | 63.06 \$/MWh | 10.33 % |
| Case 1 | 0.85 | -13.31 % | 67.64 \$/MWh | 8.84 % |
| Case 2 | 0.86 | -12.06 % | 66.90 \$/MWh | 9.07 % |

* プロジェクト寿命 (50年) と10%の割引率を使用

DSCとFIRRは、今までの2地点と比べると財務状態はかなり改善されているが、DSCとFIRRは依然1.5と財務費用(10%)を下回っている。BOT期間中のFIRRは財務費用(10%)をわずかに上回っている。Base Case について実行可能となるためのパラメーターは依然として達成困難な数値である。財務面からの立場としては、MIHから提示された条件ではBOTによる実現化は難しいと思われる。

| パラメーター | 数 値 | DSC | FIRR | 発電費用 | FIRR (BOT) |
|---------------|----------------------------|------|--------|--------------|------------|
| 建設費 | 281.56 M. US\$ (35 % 減) | 1.52 | 14.92% | 42.79 \$/MWh | 20.34% |
| 輸出電力料金 上昇率 | 1.0% to 10.0% | 1.51 | 10.67% | 79.79 \$/MWh | 21.27% |
| 利率 | 満足せず | — | — | — | — |

18.4.2 Xe Namnoy (Midstream)

(1) Xe Namnoy (Midstream) の基本条件

このプロジェクトは以下の特性を有する。

- 設備出力 238 MW
- 常時出力 230 MW
- 販売電力量 936.3 GWh
- 建設費 281.81 M. US\$

詳細を Table 18.4-8 に掲げる。

(2) 財務分析の結果と感度分析

a) Case-A

下表に結果を、また Table 18.4-9、Table 18.4-11 および Table 18.4-12 により詳細な情報を示す。

| Case | DSC | FIRR | Levelized Financial Generation Cost * |
|--------|------|---------|---------------------------------------|
| Base | 2.12 | 43.45 % | 39.86 \$/MWh |
| Case 1 | 1.84 | 38.75 % | 44.71 \$/MWh |
| Case 2 | 1.88 | 39.46 % | 43.92 \$/MWh |

* プロジェクト寿命 (50年) と10%の割引率を使用

DSCとFIRRは3地点(4計画)の中で最高の値を示しており、プロジェクトはすばらしい収益が期待できる。

b) Case-B

下表に結果を、また Table 18.4-10、Table 18.4-13 および Table 18.4-14 により詳細な情報を示す。

| Case | DSC | FIRR | Levelized Financial Generation Cost * | FIRR for BOT Period (25 years) |
|--------|------|----------|---------------------------------------|--------------------------------|
| Base | 1.11 | 2.76 % | 54.80 \$/MWh | 13.60 % |
| Case 1 | 0.97 | - 3.73 % | 60.83 \$/MWh | 11.15 % |
| Case 2 | 0.99 | - 2.62 % | 59.86 \$/MWh | 11.51 % |

* プロジェクト寿命(50年)と10%の割引率を使用

DSCとFIRRは全プロジェクトの中で最高の数値を示しているが、依然として実行可能な条件を下回っている。下記に示した実行可能となるパラメーターの数値は達成可能とも、達成不可能とも考えられる。従ってMIHが提示した条件下でBOT方式が可能かどうか結論を下すのは難しい。

| パラメーター | 数 値 | DSC | FIRR | 発電費用 | FIRR (BOT) |
|---------------|----------------------------|------|--------|--------------|------------|
| 建設費 | 211.36 M. US\$ (25 % 減) | 1.55 | 15.37% | 42.39 \$/MWh | 20.61% |
| 輸出電力料金 上昇率 | 1.0% to 7.0% | 1.53 | 12.19% | 61.39 \$/MWh | 20.83% |
| 利子率 | 10.0% to 1.75% | 1.50 | 2.12% | 42.65 \$/MWh | 13.39% |

Table 18.4-1 Basic Conditions for Xe Namnoy
(Midstream + Downstream)

| Items | Value and Conditions | Remarks |
|---|--|---|
| Installed Capacity | 305 MW | |
| Firm Capacity | 296 MW | Peak 8 Hours |
| Generation Energy | 1,384 GWh | Annual Average Energy |
| Plant Available Factor | 97.373 % | |
| Sending-end Energy (Salable Energy) | 1,231.8 GWh | G.Energy x {1- (St.Use + T/D Loss)} |
| Construction Cost including Associated T/L | 433.22 M.US\$ F/C: 367.09 M.US\$ L/C: 66.13 M.US\$ 1,420.39 \$/kW | subject to price escalation F/C: 2.8 % L/C: 4.5 % |
| Construction Period | 5 years * | including Preparatory Works |

* F/C: 8.55, 15.28, 27.93, 30.94, 17.30 (%)

L/C: 14.19, 17.45, 26.27, 27.56, 14.53 (%)

Table 18.4-2 Financial Analysis (1/4) Summary of Financial Analysis

| | | | |
|--|-------------------------|------------------------|-------------------|
| Site Name | | Xe Namnoy (M+D) | |
| Case: - A (Base) | | | |
| Construction Cost | 1,420.39 US\$/kW | | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 305.0 MW | | |
| Generation Energy | 1,384.0 GWh | | |
| Sending-end Energy | 1,231.8 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 433.22 | M.US\$ | |
| After Price Escalation | 540.27 | M.US\$ | |
| Financial Budget | 617.96 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 54.02 | 0.00 |
| | Loan Amount | 486.25 | 0.00 |
| | IDC | 77.69 | 0.00 |
| | Royalty | - | 0.00 |
| | Total | 617.96 | 0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |

| | |
|--|-----------------|
| Financial Indices | |
| Averaged Debt Service Coverage | 1.75 |
| Financial Internal Rate of Return | 37.28% |
| FIRR Calculation Period | 25 years |
| BOT Period | -- Years |
| FIRR for the BOT Period | - |

| | |
|-----------------------------|--------|
| General Inflation | |
| Foreign | 2.80% |
| Domestic | 4.50% |
| Financial Conditions | |
| Interest Rate for IDC | 6.00% |
| Interest after Operation | 6.00% |
| Repayment Period | 25 yr |
| Graced Period | 5 yr |
| Government Own finance | 10.00% |

| | | |
|-------------------------|----------|---------------|
| Income Statement | | M.US\$ |
| Sales Revenue | 4,161.65 | |
| Operating Expense | 2,882.59 | |
| Financial Expense | 350.11 | |
| Net Income before Tax | 928.95 | |
| Income Tax | (181.62) | |
| Net Income | 747.33 | |

| | | |
|----------------------------|---------|---------------|
| To the Government | | M.US\$ |
| Royalty | 0 | |
| Income Tax | 181.616 | |
| Interest Payment to Equity | - | |
| Net Income | 181.616 | |

| | |
|---|---------------|
| Financial Generation Cost in | 46.51 |
| Year 0 for the project life time | |
| 10.0% Discount Rate | \$/MWh |

Table 18.4-2 Financial Analysis (2/4) Construction Disbursement and Loan Amount

| Case: - A (Base) | | Xe Namnoy (M+D) | | Equity Proportions | | Price Escalation per annum | | Finance Condition | | Total Construction Cost (M.US\$) | | |
|-------------------|---------------|--------------------------|---------|---------------------|-------------|----------------------------|------------------|-------------------|----------------------|----------------------------------|---------|--------|
| Dam Site: | Installed | 305.00 MW | Lao PDR | 100.0% | F/C Portion | 2.8% | IDC | 6.00 % | Finance Items | Lao PDR | PRV.SCT | Total |
| Generation Energy | 1,364.0 GWh | Private | 0.0% | L/C Portion | 4.5% | Interest Rate | Repayment Period | 6.00 % | Own Finance | 54.02 | 0.00 | 54.02 |
| SEL Energy (GWh) | 1,231.8 | Debt/Equity Ratio | 90.0% | Exporting Ratio | 100.0% | Graced Period | LAO Own Finance | 25 years | Principal Loan | 486.25 | 0.00 | 486.25 |
| Project Cost | 1420.39 \$/Kw | Debt | 10.0% | Exp. Price (\$/MWh) | 52.410 | Equity | 34.330 | 5 years | IDC | 77.69 | 0.00 | 77.69 |
| F/C | 367.09 M.US\$ | Royalty for Construction | 0.0% | Dom. Price (\$/MWh) | 0.0% | Royalty from Operation | | 10.00 % | Total | 617.96 | 0.00 | 617.96 |
| L/C | 66.13 M.US\$ | | | | | | | | Equity / Royalty Fee | 0.00 | 0.00 | - |
| Total | 433.22 M.US\$ | | | | | | | | | | | |

| Year | Disbursement before Escalation | | Price Index | | Disbursement after Escalation | | Total Disburse | | Finance Proportion | | Own Finance Portion | | Loan Portion | | Loan Cumulative | | IDC | | Royalty Fee | |
|------|--------------------------------|---------|-------------|---------|-------------------------------|---------|----------------|--------|--------------------|---------|---------------------|---------|--------------|---------|-----------------|---------|--------|--------|-------------|--------|
| | for F/C | for L/C | for F/C | for L/C | for F/C | for L/C | M.US\$ | M.US\$ | Lao PDR | PRV.SCT | Lao PDR | PRV.SCT | Lao PDR | PRV.SCT | Lao PDR | PRV.SCT | M.US\$ | M.US\$ | M.US\$ | M.US\$ |
| -10 | 0.00 | 0.00 | 1.0000 | 1.0000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 0.00 | 0.00 | 1.0280 | 1.0450 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -8 | 0.00 | 0.00 | 1.0568 | 1.0920 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -7 | 0.00 | 0.00 | 1.0864 | 1.1412 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -6 | 0.00 | 0.00 | 1.1168 | 1.1925 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -5 | 31.39 | 9.38 | 1.1481 | 1.2462 | 36.04 | 11.59 | 47.73 | 47.73 | 0.00 | 4.77 | 0.00 | 0.00 | 42.96 | 0.00 | 42.96 | 0.00 | 2.58 | 0.00 | 0.00 | 0.00 |
| -4 | 56.09 | 11.54 | 1.1802 | 1.3023 | 66.20 | 15.03 | 81.23 | 81.23 | 0.00 | 8.12 | 0.00 | 0.00 | 73.11 | 0.00 | 116.07 | 0.00 | 6.96 | 0.00 | 0.00 | 0.00 |
| -3 | 102.53 | 17.37 | 1.2133 | 1.3609 | 124.40 | 23.54 | 148.04 | 148.04 | 0.00 | 14.80 | 0.00 | 0.00 | 133.24 | 0.00 | 249.31 | 0.00 | 14.96 | 0.00 | 0.00 | 0.00 |
| -2 | 113.58 | 18.23 | 1.2472 | 1.4221 | 141.66 | 25.92 | 167.58 | 167.58 | -0.00 | 16.75 | 0.00 | 0.00 | 150.82 | -0.00 | 400.13 | 0.00 | 24.01 | 0.00 | 0.00 | 0.00 |
| -1 | 63.50 | 9.61 | 1.2821 | 1.4861 | 81.41 | 14.28 | 95.69 | 95.69 | 0.00 | 9.57 | 0.00 | 0.00 | 86.12 | 0.00 | 486.25 | 0.00 | 29.18 | 0.00 | 0.00 | 0.00 |
| 0 | 0.00 | 0.00 | 1.3180 | 1.5530 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sum | 367.09 | 66.13 | | | 449.71 | 90.56 | 540.27 | 540.27 | 0.00 | 54.02 | 0.00 | 0.00 | 486.25 | 0.00 | 77.69 | 0.00 | | | | |

Table 18.4-2 Financial Analysis (3/4) Income Statement

| | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------|--|-----------------|--|---------------------|--|--------|--|---------------------|--|-------|--|-----------------|--|-------------------|--|------------------------|--|-------|--|-----------------------|--|--------|--|
| Case: - A (Base) | | Xe Namnoy (M+D) | | Expanding Ratio | | 100.0% | | Exp. Price (\$/MWh) | | 52.41 | | O/M cost | | 1.5% of T. Dep | | Income Tax | | 20.0% | | Initial F.A. (M.US\$) | | 617.96 | |
| Dam Site: | | 305 MW | | Domestic Use | | 0.0% | | Dom. Price (\$/MWh) | | 34.33 | | Fuel Cost | | 0.00 \$/MWh | | Loyalty from Operation | | 0.0% | | Life Time (Years) | | 50 | |
| Install Capacity | | 1384.0 GWh | | Increase of D. Use | | 2.0% | | Exp. Escalation | | 1.00% | | 1.00% P. Repay. | | 19.45 M.US\$, p.a | | Private | | 0.0% | | F/C Escalation | | 2.8% | |
| Generation Energy | | 1231.8 GWh | | Financial Condition | | 6 | | Dom. Escalation | | 1.00% | | 1.00% P. Repay. | | 19.45 M.US\$, p.a | | Dividend | | 2.5% | | L/C Escalation | | 4.5% | |
| Salable Energy | | 433.22 M.US\$ | | Interest Rate (%) | | 25 | | Recapital P. (yr) | | 25 | | | | | | (not considered) | | | | Equiv. Escalation | | 3.1% | |

| Year | Selling Revenue | | Sales Revenue | O/M Cost | Royalty | Y. Start Fixed Asset | Depreciation | Y. End Fixed Asset | Net Operation Income | Principal Repayment | Cum. of P. Repayment | Interest Payment | Income before Tax | Income Tax | Net Income after Tax | Current Asset in Cash | Debt Service Ratio | Export Price DSC=1.5 \$/MWh | | | | | |
|------|-----------------|-----------------|---------------|----------|---------|----------------------|--------------|--------------------|----------------------|---------------------|----------------------|------------------|-------------------|------------|----------------------|-----------------------|----------------------------------|-----------------------------|-------|--|--|--|--|
| | Export GWh | Domestic \$/MWh | | | | | | | | | | | | | | | | | | | | | |
| 0 | 1231.8 | 0.0 | 52.41 | 34.33 | 64.56 | 8.10 | 0.00 | 617.96 | 12.36 | 605.60 | 44.10 | 19.45 | 19.45 | 28.01 | 16.09 | 16.09 | 56.46 | 1.19 | 64.37 | | | | |
| 1 | 1231.8 | 0.0 | 52.93 | 34.67 | 65.20 | 8.47 | 0.00 | 624.37 | 12.74 | 611.63 | 43.99 | 19.45 | 19.45 | 26.84 | 17.15 | 17.15 | 56.73 | 1.23 | 63.24 | | | | |
| 2 | 1231.8 | 0.0 | 53.48 | 35.02 | 65.85 | 8.85 | 0.00 | 630.59 | 13.14 | 617.45 | 43.86 | 19.45 | 19.45 | 25.67 | 18.19 | 18.19 | 57.00 | 1.26 | 62.13 | | | | |
| 3 | 1231.8 | 0.0 | 54.00 | 35.37 | 66.52 | 9.25 | 0.00 | 636.99 | 13.54 | 623.05 | 43.73 | 19.45 | 19.45 | 24.51 | 19.22 | 19.22 | 57.27 | 1.30 | 61.04 | | | | |
| 4 | 1231.8 | 0.0 | 54.54 | 35.72 | 67.18 | 9.66 | 0.00 | 642.36 | 13.96 | 628.40 | 43.56 | 19.45 | 19.45 | 23.34 | 20.22 | 20.22 | 57.52 | 1.34 | 59.95 | | | | |
| 5 | 1231.8 | 0.0 | 55.08 | 36.08 | 67.85 | 10.10 | 0.00 | 648.33 | 14.40 | 633.48 | 43.35 | 19.45 | 19.45 | 22.17 | 21.18 | 21.18 | 57.75 | 1.39 | 58.88 | | | | |
| 6 | 1231.8 | 0.0 | 55.63 | 36.44 | 68.53 | 10.55 | 0.00 | 653.12 | 14.84 | 638.28 | 43.14 | 19.45 | 19.45 | 21.01 | 22.13 | 22.13 | 57.98 | 1.43 | 57.83 | | | | |
| 7 | 1231.8 | 0.0 | 56.19 | 36.81 | 69.21 | 11.03 | 0.00 | 658.07 | 15.30 | 642.77 | 42.88 | 19.45 | 19.45 | 19.84 | 23.04 | 23.04 | 58.18 | 1.48 | 56.80 | | | | |
| 8 | 1231.8 | 0.0 | 56.75 | 37.18 | 69.90 | 11.52 | 0.00 | 662.70 | 15.78 | 646.92 | 42.60 | 19.45 | 19.45 | 18.67 | 23.93 | 23.93 | 58.38 | 1.53 | 55.77 | | | | |
| 9 | 1231.8 | 0.0 | 57.32 | 37.55 | 70.61 | 12.04 | 0.00 | 666.97 | 16.27 | 650.70 | 42.30 | 19.45 | 19.45 | 17.51 | 24.79 | 24.79 | 58.57 | 1.58 | 54.78 | | | | |
| 10 | 1231.8 | 0.0 | 57.89 | 37.92 | 71.31 | 12.59 | 0.00 | 670.87 | 16.77 | 654.10 | 41.95 | 19.45 | 19.45 | 16.34 | 25.61 | 25.61 | 58.72 | 1.64 | 53.80 | | | | |
| 11 | 1231.8 | 0.0 | 58.47 | 38.30 | 72.02 | 13.15 | 0.00 | 674.46 | 17.29 | 657.09 | 41.58 | 19.45 | 19.45 | 15.17 | 26.41 | 26.41 | 58.87 | 1.70 | 52.83 | | | | |
| 12 | 1231.8 | 0.0 | 59.06 | 38.68 | 72.75 | 13.74 | 0.00 | 677.88 | 17.83 | 659.63 | 41.18 | 19.45 | 19.45 | 14.00 | 27.18 | 27.18 | 59.01 | 1.76 | 51.89 | | | | |
| 13 | 1231.8 | 0.0 | 59.65 | 39.07 | 73.48 | 14.36 | 0.00 | 680.08 | 18.38 | 661.70 | 40.74 | 19.45 | 19.45 | 12.84 | 27.90 | 27.90 | 59.12 | 1.83 | 50.98 | | | | |
| 14 | 1231.8 | 0.0 | 60.25 | 39.46 | 74.22 | 15.01 | 0.00 | 682.21 | 18.95 | 663.26 | 40.28 | 19.45 | 19.45 | 11.67 | 28.59 | 28.59 | 59.21 | 1.90 | 50.08 | | | | |
| 15 | 1231.8 | 0.0 | 60.85 | 39.86 | 74.96 | 15.68 | 0.00 | 683.82 | 19.54 | 664.28 | 39.74 | 19.45 | 19.45 | 10.50 | 29.24 | 29.24 | 59.28 | 1.98 | 49.20 | | | | |
| 16 | 1231.8 | 0.0 | 61.46 | 40.26 | 75.71 | 16.39 | 0.00 | 684.87 | 20.14 | 664.73 | 39.19 | 19.45 | 19.45 | 9.34 | 29.84 | 29.84 | 59.32 | 2.06 | 48.36 | | | | |
| 17 | 1231.8 | 0.0 | 62.07 | 40.66 | 76.46 | 17.13 | 0.00 | 685.34 | 20.77 | 664.57 | 38.56 | 19.45 | 19.45 | 8.17 | 30.39 | 30.39 | 59.33 | 2.15 | 47.54 | | | | |
| 18 | 1231.8 | 0.0 | 62.69 | 41.06 | 77.22 | 17.90 | 0.00 | 685.17 | 21.41 | 663.76 | 37.91 | 19.45 | 19.45 | 7.00 | 30.91 | 30.91 | 59.32 | 2.24 | 46.74 | | | | |
| 19 | 1231.8 | 0.0 | 63.32 | 41.47 | 78.00 | 18.70 | 0.00 | 684.34 | 22.08 | 662.26 | 37.22 | 19.45 | 19.45 | 5.84 | 31.38 | 31.38 | 59.30 | 2.34 | 45.98 | | | | |
| 20 | 1231.8 | 0.0 | 63.95 | 41.89 | 78.77 | 19.54 | 0.00 | 682.79 | 22.76 | 660.03 | 36.47 | 19.45 | 19.45 | 4.67 | 31.80 | 31.80 | 59.23 | 2.46 | 45.23 | | | | |
| 21 | 1231.8 | 0.0 | 64.59 | 42.31 | 79.56 | 20.42 | 0.00 | 680.49 | 23.47 | 657.02 | 35.67 | 19.45 | 19.45 | 3.50 | 32.17 | 32.17 | 59.14 | 2.58 | 44.52 | | | | |
| 22 | 1231.8 | 0.0 | 65.23 | 42.73 | 80.35 | 21.34 | 0.00 | 677.39 | 24.19 | 653.20 | 34.82 | 19.45 | 19.45 | 2.33 | 32.49 | 32.49 | 59.01 | 2.71 | 43.85 | | | | |
| 23 | 1231.8 | 0.0 | 65.89 | 43.16 | 81.16 | 22.30 | 0.00 | 673.45 | 24.94 | 648.51 | 33.92 | 19.45 | 19.45 | 1.17 | 32.75 | 32.75 | 58.86 | 2.85 | 43.21 | | | | |
| 24 | 1231.8 | 0.0 | 66.54 | 43.59 | 81.96 | 23.31 | 0.00 | 668.61 | 25.72 | 642.89 | 32.93 | 19.45 | 19.45 | 0.00 | 32.93 | 32.93 | 58.65 | 3.02 | 42.61 | | | | |
| Sum | | | | | 4161.85 | 1448.58 | 0 | | 1436.01 | | 1279.06 | 486.25 | 928.95 | 181.616 | 747.334 | 2715.07 | | | | | | | |
| | | | | | | | | | | | | | | | | | Average DSC for Repayment Period | | 1.75 | | | | |

Note: Net Operation Income = Sales Revenue - O/M Cost - Royalty - Depreciation

Income before Tax = Net Operation Income - Interest Payment

Current Asset in Cash = Net Operation Income + Depreciation - Debt Service Ratio = Current Asset in Cash / (Principal Repay. + Interest Payment)

The year 25 onwards are not printed in the above table intentionally.

Table 18.4-2 Financial Analysis (4/4) Financial Internal Rate of Return

Case - A (Base)

| Dam Site: | Xe Namnoy (M+D) | Equity Proportions | | Total construction Cost (M.US\$) | | | Discount Rate | | |
|-------------------|-----------------|------------------------|--------|----------------------------------|---------|---------|---------------|--------------------|--------|
| | | | | Finance Items | LAO PDR | PRV SCT | Total | Discounted to Year | 100% |
| Install Capacity | 305 MW | Lao PDR | 100.0% | Own Finance | 54.02 | 0 | 54.02 | B(enefit) | 593.89 |
| Generation Energy | 1384 GWh | Private | 0.0% | Principal Loan | 486.25 | 0 | 486.25 | C(ost) | 264.27 |
| Construction Cost | 433.22 M.US\$ | Loyalty from Operation | 0.0% | IDC | 77.69 | 0 | 77.69 | B/C | 2.25 |
| | | Lao PDR | 100.0% | Total | 617.96 | 0 | 617.96 | FIRR for the Year | 24 |
| | | Private | 0.0% | Equity / Royalty Fee | 0 | 0 | - | FIRR | 37.28% |

(Unit M.US\$)

| Year | Own Finance | IDC | Principal Repay. | Interest Payment | Royalty | Total Cost | Net Income after Tax | Depreciation + Interest | Total Income | NPV Convert Index | Net Present Value | | NPV Cumulative | | Balance B - C before Discount |
|------|-------------|-------|------------------|------------------|---------|------------|----------------------|-------------------------|--------------|-------------------|-------------------|---------|----------------|-------------|-------------------------------|
| | | | | | | | | | | | Cost | Benefit | Cost (C) | Benefit (B) | |
| -10 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.5937 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.3579 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -8 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.1436 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -7 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 1.9487 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -6 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 1.7716 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -5 | 4.77 | 2.58 | | | 0.00 | 4.77 | | | 0.00 | 1.6105 | 7.68 | 0.00 | 7.68 | 0.00 | -4.77 |
| -4 | 8.12 | 6.96 | | | 0.00 | 8.12 | | | 0.00 | 1.4641 | 11.89 | 0.00 | 19.57 | 0.00 | -8.12 |
| -3 | 14.80 | 14.96 | | | 0.00 | 14.80 | | | 0.00 | 1.3310 | 19.70 | 0.00 | 39.27 | 0.00 | -14.80 |
| -2 | 16.76 | 24.01 | | | 0.00 | 16.76 | | | 0.00 | 1.2100 | 20.28 | 0.00 | 59.55 | 0.00 | -16.76 |
| -1 | 9.57 | 29.18 | | | 0.00 | 9.57 | | | 0.00 | 1.1000 | 10.53 | 0.00 | 70.06 | 0.00 | -9.57 |
| 0 | | | 19.45 | 28.01 | | 19.45 | 16.09 | 40.37 | 56.46 | 1.0000 | 19.45 | 56.46 | 89.53 | 56.46 | 37.01 |
| 1 | | | 19.45 | 26.84 | | 19.45 | 17.15 | 39.58 | 56.73 | 0.9091 | 17.68 | 51.57 | 107.21 | 108.03 | 37.28 |
| 2 | | | 19.45 | 25.67 | | 19.45 | 18.19 | 38.81 | 57.00 | 0.8264 | 16.07 | 47.10 | 123.26 | 155.13 | 37.55 |
| 3 | | | 19.45 | 24.51 | | 19.45 | 19.22 | 38.05 | 57.27 | 0.7513 | 14.61 | 43.03 | 137.85 | 198.16 | 37.82 |
| 4 | | | 19.45 | 23.34 | | 19.45 | 20.22 | 37.30 | 57.52 | 0.6830 | 13.28 | 39.29 | 151.17 | 237.45 | 38.07 |
| 5 | | | 19.45 | 22.17 | | 19.45 | 16.94 | 36.57 | 53.51 | 0.6209 | 12.08 | 33.22 | 163.25 | 270.67 | 34.06 |
| 6 | | | 19.45 | 21.01 | | 19.45 | 17.70 | 35.85 | 53.56 | 0.5645 | 10.98 | 30.23 | 174.23 | 300.90 | 34.10 |
| 7 | | | 19.45 | 19.84 | | 19.45 | 18.43 | 35.14 | 53.57 | 0.5132 | 9.98 | 27.49 | 184.21 | 328.39 | 34.12 |
| 8 | | | 19.45 | 18.67 | | 19.45 | 19.14 | 34.45 | 53.59 | 0.4665 | 9.07 | 25.00 | 193.28 | 353.39 | 34.14 |
| 9 | | | 19.45 | 17.51 | | 19.45 | 19.83 | 33.78 | 53.61 | 0.4241 | 8.25 | 22.74 | 201.53 | 376.13 | 34.16 |
| 10 | | | 19.45 | 16.34 | | 19.45 | 20.49 | 33.11 | 53.60 | 0.3855 | 7.50 | 20.66 | 209.03 | 396.79 | 34.15 |
| 11 | | | 19.45 | 15.17 | | 19.45 | 21.13 | 32.46 | 53.59 | 0.3505 | 6.82 | 18.78 | 215.85 | 415.57 | 34.14 |
| 12 | | | 19.45 | 14.00 | | 19.45 | 21.74 | 31.83 | 53.57 | 0.3186 | 6.20 | 17.07 | 222.05 | 432.64 | 34.12 |
| 13 | | | 19.45 | 12.84 | | 19.45 | 22.32 | 31.22 | 53.54 | 0.2897 | 5.63 | 15.51 | 227.68 | 448.15 | 34.09 |
| 14 | | | 19.45 | 11.67 | | 19.45 | 22.87 | 30.62 | 53.49 | 0.2633 | 5.12 | 14.08 | 232.80 | 462.23 | 34.04 |
| 15 | | | 19.45 | 10.50 | | 19.45 | 23.39 | 30.04 | 53.43 | 0.2394 | 4.66 | 12.79 | 237.46 | 475.02 | 33.98 |
| 16 | | | 19.45 | 9.34 | | 19.45 | 23.87 | 29.48 | 53.35 | 0.2176 | 4.23 | 11.61 | 241.69 | 486.63 | 33.90 |
| 17 | | | 19.45 | 8.17 | | 19.45 | 24.31 | 28.94 | 53.25 | 0.1978 | 3.85 | 10.53 | 245.54 | 497.16 | 33.80 |
| 18 | | | 19.45 | 7.00 | | 19.45 | 24.73 | 28.41 | 53.14 | 0.1799 | 3.50 | 9.56 | 249.04 | 506.72 | 33.69 |
| 19 | | | 19.45 | 5.84 | | 19.45 | 25.10 | 27.92 | 53.02 | 0.1635 | 3.18 | 8.67 | 252.22 | 515.39 | 33.57 |
| 20 | | | 19.45 | 4.67 | | 19.45 | 25.44 | 27.43 | 52.87 | 0.1486 | 2.89 | 7.86 | 255.11 | 523.25 | 33.42 |
| 21 | | | 19.45 | 3.50 | | 19.45 | 25.74 | 26.97 | 52.71 | 0.1351 | 2.63 | 7.12 | 257.74 | 530.37 | 33.26 |
| 22 | | | 19.45 | 2.33 | | 19.45 | 26.00 | 26.52 | 52.51 | 0.1228 | 2.39 | 6.45 | 260.13 | 536.82 | 33.06 |
| 23 | | | 19.45 | 1.17 | | 19.45 | 26.20 | 26.11 | 52.31 | 0.1117 | 2.17 | 5.84 | 262.30 | 542.66 | 32.86 |
| 24 | | | 19.45 | 0.00 | | 19.45 | 26.34 | 25.72 | 52.06 | 0.1015 | 1.97 | 5.28 | 264.27 | 547.94 | 32.61 |
| 25 | | | | | | 0.00 | 25.54 | 26.51 | 52.05 | 0.0923 | 0.00 | 4.80 | 264.27 | 552.74 | 52.05 |
| 26 | | | | | | 0.00 | 24.67 | 27.34 | 52.01 | 0.0839 | 0.00 | 4.36 | 264.27 | 557.10 | 52.01 |
| 27 | | | | | | 0.00 | 23.74 | 28.18 | 51.92 | 0.0763 | 0.00 | 3.96 | 264.27 | 561.06 | 51.92 |
| 28 | | | | | | 0.00 | 22.76 | 29.06 | 51.82 | 0.0693 | 0.00 | 3.59 | 264.27 | 564.65 | 51.82 |
| 29 | | | | | | 0.00 | 21.72 | 29.96 | 51.68 | 0.0630 | 0.00 | 3.26 | 264.27 | 567.91 | 51.68 |
| 30 | | | | | | 0.00 | 20.62 | 30.89 | 51.51 | 0.0573 | 0.00 | 2.95 | 264.27 | 570.86 | 51.51 |
| 31 | | | | | | 0.00 | 19.46 | 31.84 | 51.30 | 0.0521 | 0.00 | 2.67 | 264.27 | 573.53 | 51.30 |
| 32 | | | | | | 0.00 | 18.22 | 32.83 | 51.05 | 0.0474 | 0.00 | 2.42 | 264.27 | 575.95 | 51.05 |
| 33 | | | | | | 0.00 | 16.93 | 33.85 | 50.78 | 0.0431 | 0.00 | 2.19 | 264.27 | 578.14 | 50.78 |
| 34 | | | | | | 0.00 | 15.56 | 34.90 | 50.46 | 0.0391 | 0.00 | 1.97 | 264.27 | 580.11 | 50.46 |
| 35 | | | | | | 0.00 | 14.12 | 35.98 | 50.10 | 0.0356 | 0.00 | 1.78 | 264.27 | 581.89 | 50.10 |
| 36 | | | | | | 0.00 | 12.60 | 37.09 | 49.69 | 0.0323 | 0.00 | 1.60 | 264.27 | 583.49 | 49.69 |
| 37 | | | | | | 0.00 | 11.00 | 38.24 | 49.24 | 0.0294 | 0.00 | 1.45 | 264.27 | 584.94 | 49.24 |
| 38 | | | | | | 0.00 | 9.30 | 39.43 | 48.73 | 0.0267 | 0.00 | 1.30 | 264.27 | 586.24 | 48.73 |
| 39 | | | | | | 0.00 | 7.53 | 40.65 | 48.18 | 0.0243 | 0.00 | 1.17 | 264.27 | 587.41 | 48.18 |
| 40 | | | | | | 0.00 | 5.66 | 41.91 | 47.57 | 0.0221 | 0.00 | 1.06 | 264.27 | 588.46 | 47.57 |
| 41 | | | | | | 0.00 | 3.69 | 43.21 | 46.90 | 0.0201 | 0.00 | 0.94 | 264.27 | 589.40 | 46.90 |
| 42 | | | | | | 0.00 | 1.62 | 44.55 | 46.17 | 0.0183 | 0.00 | 0.84 | 264.27 | 590.24 | 46.17 |
| 43 | | | | | | 0.00 | -0.68 | 45.93 | 45.25 | 0.0166 | 0.00 | 0.75 | 264.27 | 590.99 | 45.25 |
| 44 | | | | | | 0.00 | -3.55 | 47.36 | 43.81 | 0.0151 | 0.00 | 0.66 | 264.27 | 591.65 | 43.81 |
| 45 | | | | | | 0.00 | -6.54 | 48.82 | 42.28 | 0.0137 | 0.00 | 0.58 | 264.27 | 592.23 | 42.28 |
| 46 | | | | | | 0.00 | -9.69 | 50.34 | 40.65 | 0.0125 | 0.00 | 0.51 | 264.27 | 592.74 | 40.65 |
| 47 | | | | | | 0.00 | -13.00 | 51.90 | 38.90 | 0.0113 | 0.00 | 0.44 | 264.27 | 593.18 | 38.90 |
| 48 | | | | | | 0.00 | -16.45 | 53.51 | 37.06 | 0.0103 | 0.00 | 0.38 | 264.27 | 593.56 | 37.06 |
| 49 | | | | | | 0.00 | -20.09 | 55.16 | 35.07 | 0.0094 | 0.00 | 0.33 | 264.27 | 593.89 | 35.07 |
| Sum | 54.02 | 77.69 | 486.25 | 350.11 | 0.00 | 540.27 | 747.31 | 1796.12 | 2533.43 | | 264.27 | 593.89 | | | 1993.16 |

Note: Financial Generation Cost (FGC) is calculated as below:
 FGC = NPV(Own Finance + IDC + Royalty + O/M Cost + Prc Repayment + Interest Payment) / NPV(Generation Energy)
 Total cost does not include IDC and Interest Payment for the purpose of FIRR calculation.

Financial Generation Cost in Year 0 at 10.0% discount rate \$/MWh 46.31

Table 18.4-3 Financial Analysis (1/4) Summary of Financial Analysis

| | | | |
|--|------------------------|------------------------|-------------------|
| Site Name | | Xe Namnoy (M+D) | |
| Case: - B (Base) | | | |
| Construction Cost | 1,420.39 | US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 305.0 MW | | |
| Generation Energy | 1,384.0 GWh | | |
| Sending-end Energy | 1,231.8 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 433.22 | M.US\$ | |
| After Price Escalation | 540.27 | M.US\$ | |
| Financial Budget | 640.98 | M..US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 40.52 | 121.56 |
| | Loan Amount | 94.55 | 283.64 |
| | IDC | 25.19 | 75.52 |
| | Royalty | - | 0.00 |
| | Total | 160.26 | 480.72 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indeces | | | |
| Averaged Debt Service Coverage | | 0.93 | |
| Financial Internal Rate of Return | | -6.58% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | | |
| BOT Period | | 25 Years | |
| FIRR for the BOT Period | | 10.33% | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 10.00% | |
| Interest after Operation | | 10.00% | |
| Repayment Period | | 10 yr | |
| Graced Period | | 5 yr | |
| Government Own finance | | 0.00% | |
| Income Statement | | | M.US\$ |
| Sales Revenue | | 4,161.65 | |
| Operating Expense | | 3,352.31 | |
| Financial Expense | | 170.19 | |
| Net Income before Tax | | 639.15 | |
| Income Tax | | (152.83) | |
| Net Income | | 486.32 | |
| To the Government | | | M.US\$ |
| Royalty | | 416.23 | |
| Income Tax | | 152.828 | |
| Interest Payment to Equity | | - | |
| Net Income | | 569.058 | |
| Financial Generation Cost in Year 0 for the project life time | | 63.06 | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.4-3 Financial Analysis (2/4) Construction Disbursement and Loan Amount

| Case: B (Base) | | Xe Namnoy (M+D) | | Equity Proportions | | Price Escalation per annum | | Finance Condition | | Total Construction Cost (M.US\$) | | | | | |
|----------------|--|-----------------|--|--------------------------|--|----------------------------|--|---------------------|--|----------------------------------|--|---------|--|---------|--|
| Dam Site: | | 305.00 MW | | Lao PDR | | 25.0% | | IDC | | Finance Items | | Lao PDR | | PRV.SCT | |
| Installed | | 1,384.0 GWh | | Private | | 75.0% | | Interest Rate | | Own Finance | | 40.52 | | 121.56 | |
| Salable Energy | | 1,231.8 GWh | | Debt/Equity Ratio | | 70.0% | | Repayment Period | | Principal Loan | | 94.55 | | 283.64 | |
| Project Cost | | 1420.39 \$/Kw | | Debt | | 30.0% | | Graced Period | | IDC | | 25.19 | | 75.52 | |
| F/C | | 367.09 M.US\$ | | Equity | | 100.0% | | Lao Own Finance | | Total | | 160.26 | | 480.72 | |
| L/C | | 66.13 M.US\$ | | Royalty for Construction | | 0.0% | | Exp. Price (\$/MWh) | | Equity / Royalty Fee | | 40.52 | | 0.00 | |
| Total | | 433.22 M.US\$ | | Royalty from Operation | | 10.0% | | Dom. Price (\$/MWh) | | | | | | | |

| Year | Disbursement before Escalation | | Price Index | | Disbursement after Escalation | | Total Disburse | | Finance Proportion | | Own Finance Portion | | Loan Portion | | Loan Cumulative | | IDC | | Royalty Fee | | |
|------|--------------------------------|--------|-------------|--------|-------------------------------|--------|----------------|--------|--------------------|--------|---------------------|--------|--------------|--------|-----------------|--------|---------|--------|-------------|--------|--|
| | for F/C | | for L/C | | for F/C | | for L/C | | Lao PDR | | Lao PDR | | Lao PDR | | Lao PDR | | Lao PDR | | M.US\$ | | |
| | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | |
| -10 | 0.00 | 0.00 | 1.0000 | 1.0000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -9 | 0.00 | 0.00 | 1.0280 | 1.0450 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -8 | 0.00 | 0.00 | 1.0568 | 1.0920 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -7 | 0.00 | 0.00 | 1.0864 | 1.1412 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -6 | 0.00 | 0.00 | 1.1168 | 1.1925 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -5 | 31.39 | 9.38 | 1.1481 | 1.2462 | 36.04 | 11.69 | 47.73 | 11.93 | 35.80 | 0.00 | 3.58 | 10.74 | 8.35 | 25.06 | 8.35 | 25.06 | 0.84 | 2.51 | 0.00 | 0.00 | |
| -4 | 56.09 | 11.54 | 1.1802 | 1.3023 | 66.20 | 15.03 | 81.23 | 20.31 | 60.92 | 0.00 | 6.09 | 18.28 | 14.22 | 42.64 | 22.57 | 67.70 | 2.26 | 6.77 | 0.00 | 0.00 | |
| -3 | 102.53 | 17.37 | 1.2133 | 1.3609 | 124.40 | 23.64 | 148.04 | 37.01 | 111.03 | 0.00 | 11.10 | 33.31 | 25.91 | 77.72 | 48.48 | 145.42 | 4.85 | 14.54 | 0.00 | 0.00 | |
| -2 | 113.58 | 18.23 | 1.2472 | 1.4221 | 141.66 | 25.92 | 167.58 | 41.90 | 125.68 | 0.00 | 12.57 | 37.70 | 29.33 | 87.98 | 77.81 | 233.40 | 7.78 | 23.34 | 0.00 | 0.00 | |
| -1 | 63.50 | 9.61 | 1.2821 | 1.4861 | 81.41 | 14.28 | 95.69 | 23.92 | 71.77 | 0.00 | 7.18 | 21.53 | 16.74 | 50.24 | 94.55 | 283.64 | 9.46 | 28.36 | 0.00 | 0.00 | |
| 0 | 0.00 | 0.00 | 1.3180 | 1.5530 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Sum | 367.09 | 66.13 | | | 449.71 | 90.56 | 540.27 | 135.07 | 405.20 | 0.00 | 40.52 | 121.56 | 94.55 | 283.64 | 25.19 | 75.52 | | | | | |

Table 18.4.3 Financial Analysis (3/4) Income Statement

| Year | Selling Revenue | | Selling Price | Sales Revenue | | O/M Cost | Royalty | Y-Start Fixed Asset | Depreciation | Y-End Fixed Asset | Net Operation Income | Principal Repayment | Cum. of P. Repayment | Interest Payment | Income before Tax | Income Tax | Net Income after Tax | Current Asset in Cash | Debt Service Ratio | Export Price |
|------|------------------------|--------------------------|---------------|---------------|----------|----------|---------|---------------------|--------------|-------------------|----------------------|---------------------|----------------------|------------------|-------------------|------------|----------------------|-----------------------|--------------------|--------------|
| | Saleable Energy Export | Saleable Energy Domestic | | Export | Domestic | | | | | | | | | | | | | | | |
| | GWh | GWh | \$/MWh | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | M.U.S\$ | DSC=1.5 |
| 0 | 1231.8 | 0.0 | 52.41 | 34.33 | 64.56 | 8.10 | 6.46 | 640.98 | 12.82 | 628.16 | 37.19 | 37.82 | 37.82 | 34.04 | 3.14 | 3.14 | 50.00 | 0.70 | 99.33 | |
| 1 | 1231.8 | 0.0 | 52.53 | 34.67 | 65.20 | 8.47 | 6.52 | 647.53 | 13.22 | 634.41 | 36.99 | 37.82 | 75.64 | 6.73 | 6.73 | 50.21 | 0.74 | 95.07 | | |
| 2 | 1231.8 | 0.0 | 53.46 | 35.02 | 65.85 | 8.85 | 6.59 | 654.08 | 13.63 | 640.45 | 36.78 | 37.82 | 113.46 | 10.31 | 10.31 | 50.41 | 0.78 | 90.82 | | |
| 3 | 1231.8 | 0.0 | 54.00 | 35.37 | 66.52 | 9.25 | 6.65 | 660.30 | 14.05 | 646.25 | 36.57 | 37.82 | 151.28 | 22.69 | 13.88 | 50.52 | 0.84 | 86.59 | | |
| 4 | 1231.8 | 0.0 | 54.54 | 35.72 | 67.18 | 9.66 | 6.72 | 666.28 | 14.48 | 651.80 | 36.32 | 37.82 | 189.10 | 18.91 | 17.41 | 50.80 | 0.90 | 82.38 | | |
| 5 | 1231.8 | 0.0 | 55.08 | 36.06 | 67.85 | 10.10 | 6.79 | 672.01 | 14.93 | 657.08 | 36.03 | 37.82 | 226.92 | 15.13 | 20.90 | 50.96 | 0.96 | 78.19 | | |
| 6 | 1231.8 | 0.0 | 55.63 | 36.44 | 68.53 | 10.55 | 6.85 | 677.45 | 15.40 | 662.05 | 35.73 | 37.82 | 264.74 | 11.95 | 24.98 | 51.13 | 1.04 | 74.00 | | |
| 7 | 1231.8 | 0.0 | 56.19 | 36.81 | 69.21 | 11.03 | 6.92 | 682.57 | 15.87 | 666.70 | 35.39 | 37.82 | 302.56 | 7.56 | 27.83 | 51.26 | 1.13 | 69.89 | | |
| 8 | 1231.8 | 0.0 | 56.75 | 37.18 | 69.90 | 11.52 | 6.99 | 687.37 | 16.37 | 671.00 | 35.02 | 37.82 | 340.39 | 3.78 | 31.24 | 51.39 | 1.24 | 65.88 | | |
| 9 | 1231.8 | 0.0 | 57.32 | 37.55 | 70.61 | 12.04 | 7.06 | 691.80 | 16.87 | 674.93 | 34.64 | 37.82 | 378.20 | 0.00 | 34.64 | 51.51 | 1.36 | 61.56 | | |
| 10 | 1231.8 | 0.0 | 57.89 | 37.92 | 71.31 | 12.59 | 7.13 | 695.85 | 17.40 | 678.45 | 34.19 | 0.00 | 378.20 | 0.00 | 34.19 | 51.59 | 0.00 | 0.00 | | |
| 11 | 1231.8 | 0.0 | 58.47 | 38.30 | 72.02 | 13.15 | 7.20 | 699.48 | 17.94 | 681.54 | 33.73 | 0.00 | 378.20 | 0.00 | 33.73 | 51.73 | 0.00 | 0.00 | | |
| 12 | 1231.8 | 0.0 | 59.06 | 38.68 | 72.75 | 13.74 | 7.28 | 702.87 | 18.49 | 684.18 | 33.24 | 0.00 | 378.20 | 0.00 | 33.24 | 51.77 | 0.00 | 0.00 | | |
| 13 | 1231.8 | 0.0 | 59.65 | 39.07 | 73.48 | 14.36 | 7.35 | 705.39 | 19.06 | 686.33 | 32.71 | 0.00 | 378.20 | 0.00 | 32.71 | 51.79 | 0.00 | 0.00 | | |
| 14 | 1231.8 | 0.0 | 60.25 | 39.46 | 74.22 | 15.01 | 7.42 | 707.61 | 19.66 | 687.95 | 32.13 | 0.00 | 378.20 | 0.00 | 32.13 | 51.78 | 0.00 | 0.00 | | |
| 15 | 1231.8 | 0.0 | 60.85 | 39.86 | 74.96 | 15.68 | 7.50 | 709.28 | 20.27 | 689.01 | 31.51 | 0.00 | 378.20 | 0.00 | 31.51 | 51.75 | 0.00 | 0.00 | | |
| 16 | 1231.8 | 0.0 | 61.46 | 40.26 | 75.71 | 16.39 | 7.57 | 710.37 | 20.88 | 689.48 | 30.86 | 0.00 | 378.20 | 0.00 | 30.86 | 51.68 | 0.00 | 0.00 | | |
| 17 | 1231.8 | 0.0 | 62.07 | 40.66 | 76.46 | 17.13 | 7.65 | 710.68 | 21.54 | 689.31 | 30.14 | 0.00 | 378.20 | 0.00 | 30.14 | 51.50 | 0.00 | 0.00 | | |
| 18 | 1231.8 | 0.0 | 62.69 | 41.06 | 77.22 | 17.90 | 7.72 | 710.68 | 22.21 | 688.47 | 29.39 | 0.00 | 378.20 | 0.00 | 29.39 | 51.35 | 0.00 | 0.00 | | |
| 19 | 1231.8 | 0.0 | 63.32 | 41.47 | 78.00 | 18.70 | 7.80 | 709.81 | 22.90 | 686.91 | 28.60 | 0.00 | 378.20 | 0.00 | 28.60 | 51.18 | 0.00 | 0.00 | | |
| 20 | 1231.8 | 0.0 | 63.95 | 41.89 | 78.77 | 19.54 | 7.88 | 708.20 | 23.61 | 684.59 | 27.74 | 0.00 | 378.20 | 0.00 | 27.74 | 50.97 | 0.00 | 0.00 | | |
| 21 | 1231.8 | 0.0 | 64.59 | 42.31 | 79.56 | 20.42 | 7.96 | 705.81 | 24.34 | 681.47 | 26.84 | 0.00 | 378.20 | 0.00 | 26.84 | 50.74 | 0.00 | 0.00 | | |
| 22 | 1231.8 | 0.0 | 65.23 | 42.73 | 80.35 | 21.34 | 8.04 | 702.60 | 25.09 | 677.51 | 25.88 | 0.00 | 378.20 | 0.00 | 25.88 | 50.45 | 0.00 | 0.00 | | |
| 23 | 1231.8 | 0.0 | 65.89 | 43.16 | 81.16 | 22.30 | 8.12 | 698.51 | 25.87 | 672.64 | 24.87 | 0.00 | 378.20 | 0.00 | 24.87 | 50.18 | 0.00 | 0.00 | | |
| 24 | 1231.8 | 0.0 | 66.54 | 43.59 | 81.96 | 23.31 | 8.20 | 693.49 | 26.67 | 666.92 | 23.78 | 0.00 | 378.20 | 0.00 | 23.78 | 49.82 | 0.00 | 0.00 | | |
| Sum | | | | | 4161.65 | 1446.58 | 416.23 | | 1489.5 | | 809.34 | 378.20 | 170.19 | 639.15 | 152.828 | 486.322 | 2298.84 | | | |

Note: Net Operation Income = Sales Revenue - O/M Cost - Royalty - Depreciation
 Income before Tax = Net Operation Income - Interest Payment
 Current Asset in Cash = Net Operation Income + Depreciation - Debt Service Ratio = Current Asset in Cash / (Principal Repay. + Interest Payment)
 The year 25 onwards are not printed in the above table intentionally.

Table 18.4-3 Financial Analysis (4/4) Financial Internal Rate of Return

| Dam Site: Xe Namnoy (M+D) | | Equity Proportions | | Total construction Cost (M.US\$) | | | Discount Rate | |
|---------------------------|---------------|-----------------------|-------|----------------------------------|---------|---------|---------------|----------------------|
| Install Capacity | 305 MW | Lao PDR | 25.0% | Finance Items | LAO PDR | PRV SCT | Total | Discounted to Year 0 |
| Generation Energy | 1384 GWh | Private | 75.0% | Own Finance | 40.52 | 121.56 | 162.08 | B(enefit) 514.27 |
| Construction Cost | 433.22 M.US\$ | Royalty from Operatio | 10.0% | Principal Loan | 94.55 | 283.64 | 378.19 | C(cost) 465.87 |
| | | Lao PDR | 25.0% | IDC | 25.19 | 75.52 | 100.71 | B/C 1.10 |
| | | Private | 75.0% | Total | 160.26 | 460.72 | 640.98 | FIRR for the Year 9 |
| | | Equity / Royalty Fee | | 40.52 | 0 | - | | FIRR -6.58% |

| Year | (Unit M.US\$) | | | | | | | | | | | | | | |
|------|---------------|--------|------------------|------------------|---------|------------|----------------------|-------------------------|--------------|-------------------|--------------------------------|--------|-------------------------------------|--------|-------------------------------|
| | Own Finance | IDC | Principal Repay. | Interest Payment | Royalty | Total Cost | Net Income after Tax | Depreciation + Interest | Total Income | NPV Convert Index | Net Present Value Cost Benefit | | NPV Cumulative Cost (C) Benefit (B) | | Balance B - C before Discount |
| -10 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.5937 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.3579 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -8 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.1436 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -7 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 1.9487 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -6 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 1.7716 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -5 | 14.32 | 3.35 | | | 0.00 | 14.32 | | | 0.00 | 1.6105 | 23.06 | 0.00 | 23.06 | 0.00 | -14.32 |
| -4 | 24.37 | 9.03 | | | 0.00 | 24.37 | | | 0.00 | 1.4641 | 35.60 | 0.00 | 58.74 | 0.00 | -24.37 |
| -3 | 44.41 | 19.39 | | | 0.00 | 44.41 | | | 0.00 | 1.3310 | 59.11 | 0.00 | 117.85 | 0.00 | -44.41 |
| -2 | 50.27 | 31.12 | | | 0.00 | 50.27 | | | 0.00 | 1.2100 | 60.83 | 0.00 | 178.68 | 0.00 | -50.27 |
| -1 | 28.71 | 37.82 | | | 0.00 | 28.71 | | | 0.00 | 1.1000 | 31.58 | 0.00 | 210.26 | 0.00 | -28.71 |
| 0 | | | 37.82 | 34.04 | | 37.82 | 3.14 | 46.86 | 50.00 | 1.0000 | 37.82 | 50.00 | 248.08 | 50.00 | 12.18 |
| 1 | | | 37.82 | 30.26 | | 37.82 | 6.73 | 43.48 | 50.21 | 0.9091 | 34.38 | 45.65 | 282.46 | 95.65 | 12.39 |
| 2 | | | 37.82 | 26.47 | | 37.82 | 10.31 | 40.10 | 50.41 | 0.8264 | 31.25 | 41.66 | 313.71 | 137.31 | 12.59 |
| 3 | | | 37.82 | 22.69 | | 37.82 | 13.88 | 36.74 | 50.62 | 0.7513 | 28.41 | 38.03 | 342.12 | 175.34 | 12.80 |
| 4 | | | 37.82 | 18.91 | | 37.82 | 17.41 | 33.39 | 50.80 | 0.6830 | 25.83 | 34.70 | 367.95 | 210.04 | 12.98 |
| 5 | | | 37.82 | 15.13 | | 37.82 | 16.72 | 30.06 | 46.78 | 0.6209 | 23.48 | 29.05 | 391.43 | 239.09 | 8.96 |
| 6 | | | 37.82 | 11.35 | | 37.82 | 19.50 | 26.75 | 46.25 | 0.5645 | 21.35 | 26.11 | 412.78 | 265.20 | 8.43 |
| 7 | | | 37.82 | 7.56 | | 37.82 | 22.26 | 23.43 | 45.69 | 0.5132 | 19.41 | 23.45 | 432.19 | 288.65 | 7.87 |
| 8 | | | 37.82 | 3.78 | | 37.82 | 24.99 | 20.15 | 45.14 | 0.4665 | 17.64 | 21.06 | 449.83 | 309.71 | 7.32 |
| 9 | | | 37.82 | 0.00 | | 37.82 | 27.71 | 16.87 | 44.58 | 0.4241 | 16.04 | 18.91 | 465.87 | 328.62 | 6.76 |
| 10 | | | 0.00 | 0.00 | | 0.00 | 27.35 | 17.40 | 44.75 | 0.3855 | 0.00 | 17.25 | 465.87 | 345.87 | 44.75 |
| 11 | | | 0.00 | 0.00 | | 0.00 | 26.98 | 17.94 | 44.92 | 0.3505 | 0.00 | 15.74 | 465.87 | 361.61 | 44.92 |
| 12 | | | 0.00 | 0.00 | | 0.00 | 26.59 | 18.49 | 45.08 | 0.3186 | 0.00 | 14.36 | 465.87 | 375.97 | 45.08 |
| 13 | | | 0.00 | 0.00 | | 0.00 | 26.17 | 19.06 | 45.23 | 0.2897 | 0.00 | 13.10 | 465.87 | 389.07 | 45.23 |
| 14 | | | 0.00 | 0.00 | | 0.00 | 25.70 | 19.66 | 45.36 | 0.2633 | 0.00 | 11.94 | 465.87 | 401.01 | 45.36 |
| 15 | | | 0.00 | 0.00 | | 0.00 | 25.21 | 20.27 | 45.48 | 0.2394 | 0.00 | 10.89 | 465.87 | 411.90 | 45.48 |
| 16 | | | 0.00 | 0.00 | | 0.00 | 24.69 | 20.89 | 45.58 | 0.2176 | 0.00 | 9.92 | 465.87 | 421.82 | 45.58 |
| 17 | | | 0.00 | 0.00 | | 0.00 | 24.11 | 21.54 | 45.65 | 0.1978 | 0.00 | 9.03 | 465.87 | 430.85 | 45.65 |
| 18 | | | 0.00 | 0.00 | | 0.00 | 23.51 | 22.21 | 45.72 | 0.1799 | 0.00 | 8.23 | 465.87 | 439.08 | 45.72 |
| 19 | | | 0.00 | 0.00 | | 0.00 | 22.88 | 22.90 | 45.78 | 0.1635 | 0.00 | 7.49 | 465.87 | 446.57 | 45.78 |
| 20 | | | 0.00 | 0.00 | | 0.00 | 22.19 | 23.61 | 45.80 | 0.1486 | 0.00 | 6.81 | 465.87 | 453.38 | 45.80 |
| 21 | | | 0.00 | 0.00 | | 0.00 | 21.47 | 24.34 | 45.81 | 0.1351 | 0.00 | 6.19 | 465.87 | 459.57 | 45.81 |
| 22 | | | 0.00 | 0.00 | | 0.00 | 20.70 | 25.09 | 45.79 | 0.1228 | 0.00 | 5.62 | 465.87 | 465.19 | 45.79 |
| 23 | | | 0.00 | 0.00 | | 0.00 | 19.90 | 25.87 | 45.77 | 0.1117 | 0.00 | 5.11 | 465.87 | 470.30 | 45.77 |
| 24 | | | 0.00 | 0.00 | | 0.00 | 19.02 | 26.67 | 45.69 | 0.1015 | 0.00 | 4.64 | 465.87 | 474.94 | 45.69 |
| 25 | | | 0.00 | 0.00 | | 0.00 | 18.12 | 27.50 | 45.62 | 0.0923 | 0.00 | 4.21 | 465.87 | 479.15 | 45.62 |
| 26 | | | 0.00 | 0.00 | | 0.00 | 17.18 | 28.35 | 45.53 | 0.0839 | 0.00 | 3.82 | 465.87 | 482.97 | 45.53 |
| 27 | | | 0.00 | 0.00 | | 0.00 | 16.14 | 29.23 | 45.37 | 0.0763 | 0.00 | 3.46 | 465.87 | 486.43 | 45.37 |
| 28 | | | 0.00 | 0.00 | | 0.00 | 15.07 | 30.14 | 45.21 | 0.0693 | 0.00 | 3.13 | 465.87 | 489.56 | 45.21 |
| 29 | | | 0.00 | 0.00 | | 0.00 | 13.94 | 31.07 | 45.01 | 0.0630 | 0.00 | 2.84 | 465.87 | 492.40 | 45.01 |
| 30 | | | 0.00 | 0.00 | | 0.00 | 12.74 | 32.04 | 44.78 | 0.0573 | 0.00 | 2.57 | 465.87 | 494.97 | 44.78 |
| 31 | | | 0.00 | 0.00 | | 0.00 | 11.48 | 33.03 | 44.51 | 0.0521 | 0.00 | 2.32 | 465.87 | 497.29 | 44.51 |
| 32 | | | 0.00 | 0.00 | | 0.00 | 10.14 | 34.05 | 44.19 | 0.0474 | 0.00 | 2.09 | 465.87 | 499.38 | 44.19 |
| 33 | | | 0.00 | 0.00 | | 0.00 | 8.74 | 35.11 | 43.85 | 0.0431 | 0.00 | 1.89 | 465.87 | 501.27 | 43.85 |
| 34 | | | 0.00 | 0.00 | | 0.00 | 7.27 | 36.20 | 43.47 | 0.0391 | 0.00 | 1.70 | 465.87 | 502.97 | 43.47 |
| 35 | | | 0.00 | 0.00 | | 0.00 | 5.73 | 37.32 | 43.05 | 0.0356 | 0.00 | 1.53 | 465.87 | 504.50 | 43.05 |
| 36 | | | 0.00 | 0.00 | | 0.00 | 4.10 | 38.47 | 42.57 | 0.0323 | 0.00 | 1.38 | 465.87 | 505.88 | 42.57 |
| 37 | | | 0.00 | 0.00 | | 0.00 | 2.39 | 39.67 | 42.06 | 0.0294 | 0.00 | 1.24 | 465.87 | 507.12 | 42.06 |
| 38 | | | 0.00 | 0.00 | | 0.00 | -0.59 | 40.90 | 41.49 | 0.0267 | 0.00 | 1.11 | 465.87 | 508.23 | 41.49 |
| 39 | | | 0.00 | 0.00 | | 0.00 | -1.63 | 42.17 | 40.54 | 0.0243 | 0.00 | 0.99 | 465.87 | 509.22 | 40.54 |
| 40 | | | 0.00 | 0.00 | | 0.00 | -4.10 | 43.47 | 39.37 | 0.0221 | 0.00 | 0.87 | 465.87 | 510.09 | 39.37 |
| 41 | | | 0.00 | 0.00 | | 0.00 | -6.71 | 44.82 | 38.11 | 0.0201 | 0.00 | 0.77 | 465.87 | 510.86 | 38.11 |
| 42 | | | 0.00 | 0.00 | | 0.00 | -9.44 | 46.21 | 36.77 | 0.0183 | 0.00 | 0.67 | 465.87 | 511.53 | 36.77 |
| 43 | | | 0.00 | 0.00 | | 0.00 | -12.29 | 47.64 | 35.35 | 0.0166 | 0.00 | 0.59 | 465.87 | 512.12 | 35.35 |
| 44 | | | 0.00 | 0.00 | | 0.00 | -15.31 | 49.12 | 33.81 | 0.0151 | 0.00 | 0.51 | 465.87 | 512.63 | 33.81 |
| 45 | | | 0.00 | 0.00 | | 0.00 | -18.46 | 50.64 | 32.18 | 0.0137 | 0.00 | 0.44 | 465.87 | 513.07 | 32.18 |
| 46 | | | 0.00 | 0.00 | | 0.00 | -21.76 | 52.21 | 30.45 | 0.0125 | 0.00 | 0.38 | 465.87 | 513.45 | 30.45 |
| 47 | | | 0.00 | 0.00 | | 0.00 | -25.24 | 53.83 | 28.59 | 0.0113 | 0.00 | 0.32 | 465.87 | 513.77 | 28.59 |
| 48 | | | 0.00 | 0.00 | | 0.00 | -28.86 | 55.51 | 26.65 | 0.0103 | 0.00 | 0.27 | 465.87 | 514.04 | 26.65 |
| 49 | | | 0.00 | 0.00 | | 0.00 | -32.66 | 57.22 | 24.56 | 0.0094 | 0.00 | 0.23 | 465.87 | 514.27 | 24.56 |
| Sum | 162.08 | 100.71 | 378.20 | 170.19 | 0.00 | 540.28 | 486.29 | 1659.69 | 2145.98 | | | 465.87 | 514.27 | | 1605.70 |

Note: Financial Generation Cost (FGC) is calculated as below:
 $FGC = NPV(\text{Own Finance} + IDC + \text{Royalty} + \text{O/M Cost} + \text{Prs Repayment} + \text{Interest Payment}) / NPV(\text{Generation Energy})$
 Total Cost does not include IDC and Interest Payment for the purpose of FIRR calculation.

Financial Generation Cost in Year 0 at 10.0% discount rate **63.66 \$/MWh**

Table 18.4-4 Financial Analysis

Summary of Financial Analysis

| | | | |
|---|-------------|----------------------------|------------|
| Site Name | | Xe Namnoy (M+D) | |
| Case: - A (Case 1: Allocated T/L system) | | | |
| Construction Cost | | 1,533.28 US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 305.0 MW | | |
| Generation Energy | 1,384.0 GWh | | |
| Sending-end Energy | 1,231.8 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 467.65 | M.US\$ | |
| After Price Escalation | 583.01 | M.US\$ | |
| Financial Budget | 666.82 | M.US\$ | |
| Financial Items | | Lao PDR | Private S. |
| Own Finance | 58.30 | 0.00 | |
| Loan Amount | 524.71 | 0.00 | |
| IDC | 83.81 | 0.00 | |
| Royalty | - | 0.00 | |
| Total | 666.82 | 0.00 | |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |
| Financial Indeces | | | |
| Averaged Debt Service Coverage | | 1.59 | |
| Financial Internal Rate of Return | | 34.12% | |
| FIRR Calculation Period | | 25 years | |
| BOT Period | | -- Years | |
| FIRR for the BOT Period | | - | |
| General Inflation | | | |
| Foreign | 2.80% | | |
| Domestic | 4.50% | | |
| Financial Conditions | | | |
| Interest Rate for IDC | 6.00% | | |
| Interest after Operation | 6.00% | | |
| Repayment Period | 25 yr | | |
| Graced Period | 5 yr | | |
| Government Own finance | 10.00% | | |
| Income Statement | | M.US\$ | |
| Sales Revenue | 4,161.65 | | |
| Operating Expense | 3,110.55 | | |
| Financial Expense | 377.77 | | |
| Net Income before Tax | 673.33 | | |
| Income Tax | (148.33) | | |
| Net Income | 525.00 | | |
| To the Government | | M.US\$ | |
| Royalty | 0 | | |
| Income Tax | 148.33 | | |
| Interest Payment to Equity | - | | |
| Net Income | 148.33 | | |
| Financial Generation Cost in | | 50.19 | |
| Year 0 for the project life time | | 10.0% Discount Rate | |
| | | \$/MWh | |

Table 18.4-5 Financial Analysis Summary of Financial Analysis

| | | | |
|--|------------------------|-------------------------|-------------------|
| Site Name | | Xe Namnoy (M+D) | |
| Case: - A (Case 2: Independent T/L) | | | |
| Construction Cost | | 1,515.08 US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 305.0 | MW | |
| Generation Energy | 1,384.0 | GWh | |
| Sending-end Energy | 1,231.8 | GWh | |
| Construction Cost | | | |
| Before Price Escalation | 462.10 | M.US\$ | |
| After Price Escalation | 576.13 | M.US\$ | |
| Financial Budget | 658.96 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 57.61 | 0.00 |
| | Loan Amount | 518.52 | 0.00 |
| | IDC | 82.83 | 0.00 |
| | Royalty | | 0.00 |
| | Total | 658.96 | 0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |

| | |
|--|-----------------|
| Financial Indices | |
| Averaged Debt Service Coverage | 1.61 |
| Financial Internal Rate of Return | 34.62% |
| FIRR Calculation Period | 25 years |
| BOT Period | -- Years |
| FIRR for the BOT Period | - |

| | |
|-----------------------------|--------|
| General Inflation | |
| Foreign | 2.80% |
| Domestic | 4.50% |
| Financial Conditions | |
| Interest Rate for IDC | 6.00% |
| Interest after Operation | 6.00% |
| Repayment Period | 25 yr |
| Graced Period | 5 yr |
| Government Own finance | 10.00% |

| | | |
|-------------------------|----------|---------------|
| Income Statement | | M.US\$ |
| Sales Revenue | 4,161.65 | |
| Operating Expense | 3,073.86 | |
| Financial Expense | 373.35 | |
| Net Income before Tax | 714.44 | |
| Income Tax | (153.47) | |
| Net Income | 560.97 | |

| | | |
|----------------------------|---------|---------------|
| To the Government | | M.US\$ |
| Royalty | 0 | |
| Income Tax | 153.468 | |
| Interest Payment to Equity | - | |
| Net Income | 153.468 | |

| | |
|---|---------------|
| Financial Generation Cost in | 49.6 |
| Year 0 for the project life time | |
| 10.0% Discount Rate | \$/MWh |

Table 18.4-6 Financial Analysis Summary of Financial Analysis

| | | | |
|---|-------------|-------------------------|------------|
| Site Name | | Xe Namnoy (M+D) | |
| Case: - B (Case 1: Allocated T/L system) | | | |
| Construction Cost | | 1,533.28 US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 305.0 MW | | |
| Generation Energy | 1,384.0 GWh | | |
| Sending-end Energy | 1,231.8 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 467.65 | M.US\$ | |
| After Price Escalation | 583.01 | M.US\$ | |
| Financial Budget | 691.65 | M.US\$ | |
| Financial Items | | Lao PDR | Private S. |
| Own Finance | 43.74 | 131.18 | |
| Loan Amount | 102.03 | 306.06 | |
| IDC | 27.16 | 81.48 | |
| Royalty | - | 0.00 | |
| Total | 172.93 | 518.72 | |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |

| | |
|-----------------------------------|----------|
| Financial Indeces | |
| Averaged Debt Service Coverage | 0.85 |
| Financial Internal Rate of Return | -13.31% |
| FIRR Calculation Period | 10 years |

| | | |
|-------------------------|--|-----------------|
| BOT Period | | 25 Years |
| FIRR for the BOT Period | | 8.84% |

| | |
|-----------------------------|--------|
| General Inflation | |
| Foreign | 2.80% |
| Domestic | 4.50% |
| Financial Conditions | |
| Interest Rate for IDC | 10.00% |
| Interest after Operation | 10.00% |
| Repayment Period | 10 yr |
| Graced Period | 5 yr |
| Government Own finance | 0.00% |

| | | |
|-------------------------|----------|---------------|
| Income Statement | | M.US\$ |
| Sales Revenue | 4,161.65 | |
| Operating Expense | 3,584.55 | |
| Financial Expense | 183.64 | |
| Net Income before Tax | 393.46 | |
| Income Tax | (128.10) | |
| Net Income | 265.36 | |

| | | |
|----------------------------|--------|---------------|
| To the Government | | M.US\$ |
| Royalty | 416.23 | |
| Income Tax | 128.1 | |
| Interest Payment to Equity | - | |
| Net Income | 544.33 | |

| | |
|---|--------|
| Financial Generation Cost in Year 0 for the project life time | 67.64 |
| 10.0% Discount Rate | \$/MWh |

Table 18.4-7 Financial Analysis

Summary of Financial Analysis

| | | | |
|---|------------------------|------------------------|-------------------|
| Site Name | | Xe Namnoy (M+D) | |
| Case: - B (Case 2: Independent T/L) | | | |
| Construction Cost | 1,515.08 | US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 305.0 MW | | |
| Generation Energy | 1,384.0 GWh | | |
| Sending-end Energy | 1,231.8 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 462.10 | M.US\$ | |
| After Price Escalation | 576.13 | M.US\$ | |
| Financial Budget | 683.49 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 43.22 | 129.65 |
| | Loan Amount | 100.82 | 302.44 |
| | IDC | 26.85 | 80.51 |
| | Royalty | - | 0.00 |
| | Total | 170.89 | 512.60 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indices | | | |
| Averaged Debt Service Coverage | | 0.86 | |
| Financial Internal Rate of Return | | -12.06% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | | |
| FIRR for the BOT Period | | 9.07% | |
| General Inflation | | | |
| Foreign | 2.80% | | |
| Domestic | 4.50% | | |
| Financial Conditions | | | |
| Interest Rate for IDC | 10.00% | | |
| Interest after Operation | 10.00% | | |
| Repayment Period | 10 yr | | |
| Graced Period | 5 yr | | |
| Government Own finance | 0.00% | | |
| Income Statement | | M.US\$ | |
| Sales Revenue | | 4,161.65 | |
| Operating Expense | | 3,547.14 | |
| Financial Expense | | 181.45 | |
| Net Income before Tax | | 433.06 | |
| Income Tax | | (131.80) | |
| Net Income | | 301.26 | |
| To the Government | | M.US\$ | |
| Royalty | | 416.23 | |
| Income Tax | | 131.8 | |
| Interest Payment to Equity | | - | |
| Net Income | | 548.03 | |
| Financial Generation Cost in | | 66.90 | |
| Year 0 for the project life time | | | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.4-8 Basic Conditions for Xe Namnoy
(Midstream)

| Items | Value and Conditions | Remarks |
|---|---|---|
| Installed Capacity | 238 MW | |
| Firm Capacity | 230 MW | Peak 8 Hours |
| Generation Energy | 1,052 GWh | Annual Average Energy |
| Plant Available Factor | 97.373 % | |
| Sending-end Energy (Salable Energy) | 936.3 GWh | G.Energy x {1 - (St.Use + T/D Loss)} |
| Construction Cost including Associated T/L | 281.81 M.US\$ F/C: 237.58 M.US\$ L/C: 44.23 M.US\$ 1,184.0 \$/kW | subject to price escalation F/C: 2.8 % L/C: 4.5 % |
| Construction Period | 5 years * | including Preparatory Works |

* F/C: 9.05, 15.57, 27.13, 31.29, 16.96 (%)

L/C: 16.40, 18.06, 25.10, 26.60, 13.84 (%)

Table 18.4-9 Financial Analysis (1/4) Summary of Financial Analysis

| | | | |
|--|--------------------------|------------------------|-------------------|
| Site Name | | Xe Namnoy (Mid) | |
| Case: - A (Base) | | | |
| Construction Cost | 1,184.08 | US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 238.0 | MW | |
| Generation Energy | 1,052.0 | GWh | |
| Sending-end Energy | 936.3 | GWh | |
| Construction Cost | | | |
| Before Price Escalation | 281.81 | M.US\$ | |
| After Price Escalation | 351.31 | M.US\$ | |
| Financial Budget | 402.31 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 35.14 | 0.00 |
| | Loan Amount | 316.17 | -0.00 |
| | IDC | 51.00 | 0.00 |
| | Royalty | - | 0.00 |
| | Total | 402.31 | -0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |
| Financial Indeces | | | |
| Averaged Debt Service Coverage | | 2.12 | |
| Financial Internal Rate of Return | | 43.45% | |
| FIRR Calculation Period | | 25 years | |
| BOT Period | | -- Years | |
| FIRR for the BOT Period | | - | |
| General Inflation | | | |
| | Foreign | 2.80% | |
| | Domestic | 4.50% | |
| Financial Conditions | | | |
| | Interest Rate for IDC | 6.00% | |
| | Interest after Operation | 6.00% | |
| | Repayment Period | 25 yr | |
| | Graced Period | 5 yr | |
| | Government Own finance | 10.00% | |
| Income Statement | | M.US\$ | |
| Sales Revenue | | 3,163.32 | |
| Operating Expense | | 1,875.43 | |
| Financial Expense | | 227.58 | |
| Net Income before Tax | | 1,060.31 | |
| Income Tax | | (193.33) | |
| Net Income | | 866.98 | |
| To the Government | | M.US\$ | |
| Royalty | | 0 | |
| Income Tax | | 193.328 | |
| Interest Payment to Equity | | - | |
| Net Income | | 193.328 | |
| Financial Generation Cost in | | 39.86 | |
| Year 0 for the project life time | | | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.4-9 Financial Analysis (2/4) Construction Disbursement and Loan Amount

| Case: - A (Base) | | Xe Namnoy (Mid) | | Equity Proportions | | Price Escalation per annum | | Finance Condition | | Total Construction Cost (M.US\$) | | | | | |
|------------------|-------------------|-----------------|---------|--------------------|-------------|----------------------------|---------------------|-------------------|------------------|----------------------------------|-----------------|----------------------|---------|---------|--------|
| Dam Site: | Installed | Lao PDR | Private | Debt/Equity Ratio | F/C Portion | L/C Portion | IDC | Interest Rate | Repayment Period | Graced Period | Lao Own Finance | Finance Items | LAO PDR | PRV SCT | Total |
| | 238.00 MW | 100.0% | 0.0% | 90.0% | 2.8% | 4.5% | 6.00 % | 6.00 % | 25 years | 5 years | 35.14 | Own Finance | 35.14 | 0.00 | 35.14 |
| | Generation Energy | 1,052.0 GWh | | | | | | | | | | Principal Loan | 316.17 | -0.00 | 316.17 |
| | Salable Energy | 936.3 GWh | | | | | | | | | | IDC | 51.00 | 0.00 | 51.00 |
| | Project Cost | 1184.08 \$/Kw | | | | | 100.0% | | | | | Total: | 402.31 | -0.00 | 402.31 |
| | F/C | 237.58 M.US\$ | | | | | Exp. Price (\$/MWh) | 52.410 | | | | Equity / Royalty Fee | 0.00 | 0.00 | - |
| | L/C | 44.23 M.US\$ | | | | | Dom. Price (\$/MWh) | 34.330 | | | | | | | |
| | Total | 281.81 M.US\$ | | | | | | | | | | | | | |

| Year | Disbursement before Escalation | | Price Index | | Disbursement after Escalation | | Total Disburse | Finance Proportion | | Own Finance Portion | | Loan Portion | | Loan Cumulative | | IDC | | Royalty Fee | |
|------|--------------------------------|----------------|-------------|---------|-------------------------------|----------------|----------------|--------------------|----------------|---------------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|-------------|------|
| | for F/C M.US\$ | for L/C M.US\$ | for F/C | for L/C | for F/C M.US\$ | for L/C M.US\$ | | Lao PDR M.US\$ | PRV.SCT M.US\$ | Lao PDR M.US\$ | PRV.SCT M.US\$ | Lao PDR M.US\$ | PRV.SCT M.US\$ | Lao PDR M.US\$ | PRV.SCT M.US\$ | Lao PDR M.US\$ | PRV.SCT M.US\$ | | |
| -10 | 0.00 | 0.00 | 1.0000 | 1.0000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 0.00 | 0.00 | 1.0280 | 1.0450 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -8 | 0.00 | 0.00 | 1.0568 | 1.0920 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -7 | 0.00 | 0.00 | 1.0864 | 1.1412 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -6 | 0.00 | 0.00 | 1.1168 | 1.1925 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -5 | 21.50 | 7.25 | 1.1481 | 1.2462 | 24.68 | 9.03 | 33.71 | 0.00 | 33.71 | 0.00 | 3.37 | 30.34 | 0.00 | 30.34 | 0.00 | 1.82 | 0.00 | 0.00 | 0.00 |
| -4 | 36.99 | 7.99 | 1.1802 | 1.3023 | 43.66 | 10.41 | 54.07 | -0.00 | 54.07 | 0.00 | 5.41 | 48.66 | -0.00 | 79.00 | 0.00 | 4.74 | 0.00 | 0.00 | 0.00 |
| -3 | 64.46 | 11.10 | 1.2133 | 1.3609 | 78.21 | 15.11 | 93.32 | 0.00 | 93.32 | 0.00 | 9.33 | 83.99 | 0.00 | 162.99 | 0.00 | 9.78 | 0.00 | 0.00 | 0.00 |
| -2 | 74.34 | 11.77 | 1.2472 | 1.4221 | 92.72 | 16.74 | 109.46 | 0.00 | 109.46 | 0.00 | 10.95 | 98.51 | 0.00 | 261.50 | 0.00 | 15.69 | 0.00 | 0.00 | 0.00 |
| -1 | 40.29 | 6.12 | 1.2821 | 1.4861 | 51.66 | 9.09 | 60.75 | 0.00 | 60.75 | 0.00 | 6.08 | 54.67 | 0.00 | 316.17 | 0.00 | 18.97 | 0.00 | 0.00 | 0.00 |
| 0 | 0.00 | 0.00 | 1.3180 | 1.5530 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sum | 237.69 | 44.23 | | | 290.93 | 60.38 | 351.31 | -0.00 | 351.31 | 0.00 | 35.14 | 316.17 | -0.00 | 51.00 | 0.00 | | | | |

Table 18.4-9 Financial Analysis (3/4) Income Statement

| | | | | | | | | | | | | | | | |
|-------------------|--|-----------------|--|---------------------|--|-----------------|--|----------------|--|------------------------|--|------------------------------|--|--------|--|
| Case: - A (Base) | | Xe Namnoy (Mid) | | Exporting Ratio | | O/M cost | | 1.5% of T. Deb | | Income Tax | | 20.0% Initial F.A. (M.US\$) | | 402.31 | |
| Dam Site: | | 238 MW | | Domestic Use | | Fuel Cost | | 0.00 \$/MWh | | Royalty from Operation | | 0.0% Life Time (Years) | | 50 | |
| Install Capacity: | | 1052.0 GWh | | Increase of D. Use | | 1.00% | | 0.00 \$/MWh | | Private | | 100.0% Initial Dep. (M.US\$) | | 8.05 | |
| Generation Energy | | 936.3 GWh | | Financial Condition | | Dom. Escalation | | 1.00% | | Dividend | | 0.0% FIC Escalation | | 2.8% | |
| Salable Energy | | 281.81 M.US\$ | | Interest Rate (%) | | 6 | | 2.0% | | (not considered) | | 2.5% L/C Escalation | | 4.5% | |
| Construction Cost | | 25 | | Repairment P. (Yr) | | 25 | | | | | | Equiv. Escalation | | 3.1% | |

| Year | Selling Revenue | | Sales Revenue | O/M Cost | Royalty | Y. Start Fixed Asset | Depreciation | Y. End Fixed Asset | Net Operation Income | Principal Repayment | Cum. of P. Repayment | Interest Payment | Income before Tax | Income Tax | Net Income after Tax | Current Asset in Cash | Debt Service Ratio | Export Price DSC=1.5 \$/MWh | |
|------|-----------------|-----------------|---------------|----------|---------|----------------------|--------------|--------------------|----------------------|---------------------|----------------------|------------------|-------------------|------------|----------------------|-----------------------|--------------------|----------------------------------|------|
| | Export GWh | Domestic \$/MWh | | | | | | | | | | | | | | | | | |
| 0 | 936.3 | 0.0 | 48.07 | 5.27 | 0.00 | 402.31 | 8.05 | 394.26 | 35.75 | 12.65 | 12.65 | 18.21 | 17.54 | 17.54 | 43.80 | 1.42 | 55.07 | | |
| 1 | 936.3 | 0.0 | 49.86 | 5.51 | 0.00 | 408.48 | 8.30 | 398.18 | 35.75 | 12.65 | 25.30 | 17.45 | 18.30 | 18.30 | 44.05 | 1.46 | 54.11 | | |
| 2 | 936.3 | 0.0 | 50.05 | 5.75 | 0.00 | 410.52 | 8.55 | 401.97 | 35.75 | 12.65 | 37.95 | 16.69 | 19.06 | 19.06 | 44.30 | 1.51 | 53.15 | | |
| 3 | 936.3 | 0.0 | 50.56 | 6.01 | 0.00 | 414.43 | 8.82 | 405.61 | 35.73 | 12.65 | 50.60 | 15.93 | 19.80 | 19.80 | 44.55 | 1.56 | 52.21 | | |
| 4 | 936.3 | 0.0 | 51.07 | 6.28 | 0.00 | 418.18 | 9.09 | 409.09 | 35.70 | 12.65 | 63.25 | 15.18 | 20.52 | 20.52 | 44.79 | 1.61 | 51.29 | | |
| 5 | 936.3 | 0.0 | 51.57 | 6.57 | 0.00 | 421.77 | 9.37 | 412.40 | 35.63 | 12.65 | 75.90 | 14.42 | 21.21 | 4.24 | 16.97 | 45.00 | 1.66 | 50.36 | |
| 6 | 936.3 | 0.0 | 52.08 | 6.86 | 0.00 | 425.18 | 9.66 | 415.52 | 35.57 | 12.65 | 88.55 | 13.66 | 21.91 | 4.38 | 17.53 | 45.23 | 1.72 | 49.48 | |
| 7 | 936.3 | 0.0 | 52.61 | 7.17 | 0.00 | 428.40 | 9.96 | 418.44 | 35.48 | 12.65 | 101.20 | 12.90 | 22.58 | 4.52 | 18.06 | 45.44 | 1.78 | 48.59 | |
| 8 | 936.3 | 0.0 | 53.14 | 7.48 | 0.00 | 431.41 | 10.27 | 421.14 | 35.38 | 12.65 | 113.85 | 12.14 | 23.24 | 4.65 | 18.59 | 45.65 | 1.84 | 47.71 | |
| 9 | 936.3 | 0.0 | 53.67 | 7.83 | 0.00 | 434.20 | 10.58 | 423.61 | 35.25 | 12.65 | 126.50 | 11.38 | 23.87 | 4.77 | 19.10 | 45.84 | 1.91 | 46.86 | |
| 10 | 936.3 | 0.0 | 54.20 | 8.18 | 0.00 | 436.74 | 10.92 | 425.82 | 35.10 | 12.65 | 139.15 | 10.62 | 24.48 | 4.90 | 19.58 | 46.02 | 1.98 | 46.02 | |
| 11 | 936.3 | 0.0 | 54.75 | 8.55 | 0.00 | 439.02 | 11.28 | 427.76 | 34.94 | 12.65 | 151.80 | 9.88 | 25.08 | 5.02 | 20.06 | 46.20 | 2.05 | 45.19 | |
| 12 | 936.3 | 0.0 | 55.30 | 8.94 | 0.00 | 441.02 | 11.61 | 429.41 | 34.75 | 12.65 | 164.45 | 9.10 | 25.65 | 5.13 | 20.52 | 46.36 | 2.13 | 44.39 | |
| 13 | 936.3 | 0.0 | 55.85 | 9.34 | 0.00 | 442.72 | 11.97 | 430.75 | 34.54 | 12.65 | 177.10 | 8.34 | 26.20 | 5.24 | 20.96 | 46.51 | 2.22 | 43.60 | |
| 14 | 936.3 | 0.0 | 56.41 | 9.76 | 0.00 | 444.10 | 12.34 | 431.76 | 34.31 | 12.65 | 189.75 | 7.59 | 26.72 | 5.34 | 21.38 | 46.65 | 2.30 | 42.85 | |
| 15 | 936.3 | 0.0 | 56.97 | 10.20 | 0.00 | 445.14 | 12.72 | 432.42 | 34.05 | 12.65 | 202.40 | 6.83 | 27.22 | 5.44 | 21.78 | 46.77 | 2.40 | 42.10 | |
| 16 | 936.3 | 0.0 | 57.54 | 10.66 | 0.00 | 445.83 | 13.11 | 432.72 | 33.77 | 12.65 | 215.05 | 6.07 | 27.70 | 5.54 | 22.16 | 46.88 | 2.50 | 41.38 | |
| 17 | 936.3 | 0.0 | 58.12 | 11.14 | 0.00 | 446.13 | 13.52 | 432.61 | 33.46 | 12.65 | 227.70 | 5.31 | 28.15 | 5.63 | 22.52 | 46.98 | 2.62 | 40.67 | |
| 18 | 936.3 | 0.0 | 58.70 | 11.64 | 0.00 | 446.02 | 13.94 | 432.08 | 33.12 | 12.65 | 240.35 | 4.55 | 28.57 | 5.71 | 22.86 | 47.06 | 2.74 | 39.99 | |
| 19 | 936.3 | 0.0 | 59.29 | 12.16 | 0.00 | 445.47 | 14.37 | 431.10 | 32.76 | 12.65 | 253.00 | 3.79 | 28.97 | 5.79 | 23.18 | 47.13 | 2.87 | 39.33 | |
| 20 | 936.3 | 0.0 | 59.88 | 12.71 | 0.00 | 444.46 | 14.82 | 429.64 | 32.35 | 12.65 | 265.65 | 3.03 | 29.32 | 5.86 | 23.46 | 47.17 | 3.01 | 38.69 | |
| 21 | 936.3 | 0.0 | 60.48 | 13.28 | 0.00 | 442.96 | 15.27 | 427.69 | 31.93 | 12.65 | 278.30 | 2.27 | 29.66 | 5.93 | 23.73 | 47.20 | 3.16 | 38.09 | |
| 22 | 936.3 | 0.0 | 61.07 | 13.88 | 0.00 | 440.95 | 15.75 | 425.20 | 31.44 | 12.65 | 290.95 | 1.51 | 29.93 | 5.99 | 23.94 | 47.19 | 3.33 | 37.51 | |
| 23 | 936.3 | 0.0 | 61.69 | 14.50 | 0.00 | 438.38 | 16.24 | 422.14 | 30.95 | 12.65 | 303.60 | 0.75 | 30.20 | 6.04 | 24.16 | 47.19 | 3.52 | 36.95 | |
| 24 | 936.3 | 0.0 | 62.30 | 15.16 | 0.00 | 435.23 | 16.74 | 418.49 | 30.40 | 12.65 | 316.25 | 0.00 | 30.40 | 6.08 | 24.32 | 47.14 | 3.73 | 36.46 | |
| Sum | | | 3163.32 | 940.85 | 0 | | 934.75 | | 1287.89 | 316.25 | | 227.58 | 1060.31 | 193.328 | 866.982 | 2222.67 | | | |
| | | | | | | | | | | | | | | | | | | Average DSC for Repayment Period | 2.12 |

Note: Net Operation Income = Sales Revenue - O/M Cost - Royalty - Depreciation

Income before Tax = Net Operation Income - Interest Payment

Current Asset in Cash = Net Operation Income + Depreciation - Debt Service Ratio = Current Asset in Cash / (Principal Repay. + Interest Payment)

The year 25 onwards are not printed in the above table intentionally.

Table 18.4-9 Financial Analysis (4/4) Financial Internal Rate of Return

Case - A (Base)

| | | | | | | | | | | |
|-------------------|-----------------|-----------------------|--------|----------------------|-----------------------------------|---------|--------|--------------------|--------|------|
| Dam Site: | Xe Namnoy (Mid) | Equity Proportions | | | Total construction Cost (M.U.S\$) | | | Discount Rate | | 100% |
| Install Capacity | 238 MW | Lao PDR | 100.0% | Finance Items | LAO PDR | PRV SCT | Total: | Discounted to Year | 0 | |
| Generation Energy | 1052 GWh | Private | 0.0% | Own Finance | 35.14 | 0 | 35.14 | B(enefit) | 460.74 | |
| | | Royalty from Operatio | 0.0% | Principal Loan | 316.17 | -0.00 | 316.17 | C(cost) | 171.98 | |
| Construction Cost | 281.81 M.U.S\$ | Lao PDR | 100.0% | IDC | 51.00 | 0.00 | 51.00 | B/C | 2.68 | |
| | | Private | 0.0% | Total | 402.31 | -0.00 | 402.31 | FIRR for the Year | 24 | |
| | | | | Equity / Royalty Fee | 0 | 0 | - | FIRR | 43.45% | |

(Unit M.U.S\$)

| Year | Own Finance | IDC | Principal Repay. | Interest Payment | Royalty | Total Cost | Net Income after Tax | Deprici- alion + Interest | Total Income | NPV Convert Index | Net Present Value | | NPV Cumulative | | Balance B - C before Discount |
|------|-------------|-------|------------------|------------------|---------|------------|----------------------|---------------------------|--------------|-------------------|-------------------|---------|----------------|-------------|-------------------------------|
| | | | | | | | | | | | Cost | Benefit | Cost (C) | Benefit (B) | |
| -10 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.5937 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.3579 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -8 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.1436 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -7 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 1.9487 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -6 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 1.7716 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -5 | 3.37 | 1.82 | | | 0.00 | 3.37 | | | 0.00 | 1.6105 | 5.43 | 0.00 | 5.43 | 0.00 | -3.37 |
| -4 | 5.41 | 4.74 | | | 0.00 | 5.41 | | | 0.00 | 1.4641 | 7.92 | 0.00 | 13.35 | 0.00 | -5.41 |
| -3 | 9.33 | 9.78 | | | 0.00 | 9.33 | | | 0.00 | 1.3310 | 12.42 | 0.00 | 25.77 | 0.00 | -9.33 |
| -2 | 10.95 | 15.69 | | | 0.00 | 10.95 | | | 0.00 | 1.2100 | 13.25 | 0.00 | 39.02 | 0.00 | -10.95 |
| -1 | 6.08 | 18.97 | | | 0.00 | 6.08 | | | 0.00 | 1.1000 | 6.69 | 0.00 | 45.71 | 0.00 | -6.08 |
| 0 | | | 12.65 | 18.21 | | 12.65 | 17.54 | 26.26 | 43.80 | 1.0000 | 12.65 | 43.80 | 58.36 | 43.80 | 31.15 |
| 1 | | | 12.65 | 17.45 | | 12.65 | 18.30 | 25.75 | 44.05 | 0.9091 | 11.50 | 40.05 | 69.86 | 83.85 | 31.40 |
| 2 | | | 12.65 | 16.69 | | 12.65 | 19.06 | 25.24 | 44.30 | 0.8264 | 10.45 | 36.81 | 80.31 | 120.46 | 31.65 |
| 3 | | | 12.65 | 15.93 | | 12.65 | 19.80 | 24.75 | 44.55 | 0.7513 | 9.50 | 33.47 | 89.81 | 153.93 | 31.90 |
| 4 | | | 12.65 | 15.18 | | 12.65 | 20.52 | 24.27 | 44.79 | 0.6830 | 8.64 | 30.59 | 96.45 | 184.52 | 32.14 |
| 5 | | | 12.65 | 14.42 | | 12.65 | 16.97 | 23.79 | 40.76 | 0.6209 | 7.85 | 25.31 | 106.30 | 209.83 | 28.11 |
| 6 | | | 12.65 | 13.66 | | 12.65 | 17.53 | 23.32 | 40.85 | 0.5645 | 7.14 | 23.06 | 113.44 | 232.89 | 28.20 |
| 7 | | | 12.65 | 12.90 | | 12.65 | 18.06 | 22.86 | 40.92 | 0.5132 | 6.49 | 21.00 | 119.93 | 253.89 | 28.27 |
| 8 | | | 12.65 | 12.14 | | 12.65 | 18.59 | 22.41 | 41.00 | 0.4665 | 5.90 | 19.13 | 125.83 | 273.02 | 28.35 |
| 9 | | | 12.65 | 11.38 | | 12.65 | 19.10 | 21.97 | 41.07 | 0.4241 | 5.36 | 17.42 | 131.19 | 290.44 | 28.42 |
| 10 | | | 12.65 | 10.62 | | 12.65 | 19.58 | 21.54 | 41.12 | 0.3855 | 4.88 | 15.85 | 136.07 | 306.29 | 28.47 |
| 11 | | | 12.65 | 9.86 | | 12.65 | 20.06 | 21.12 | 41.18 | 0.3505 | 4.43 | 14.43 | 140.50 | 320.72 | 28.53 |
| 12 | | | 12.65 | 9.10 | | 12.65 | 20.52 | 20.71 | 41.23 | 0.3186 | 4.03 | 13.14 | 144.53 | 333.86 | 28.58 |
| 13 | | | 12.65 | 8.34 | | 12.65 | 20.96 | 20.31 | 41.27 | 0.2897 | 3.66 | 11.96 | 148.19 | 345.82 | 28.62 |
| 14 | | | 12.65 | 7.59 | | 12.65 | 21.38 | 19.93 | 41.31 | 0.2633 | 3.33 | 10.88 | 151.52 | 356.70 | 28.66 |
| 15 | | | 12.65 | 6.83 | | 12.65 | 21.78 | 19.55 | 41.33 | 0.2394 | 3.03 | 9.89 | 154.55 | 366.59 | 28.68 |
| 16 | | | 12.65 | 6.07 | | 12.65 | 22.16 | 19.18 | 41.34 | 0.2176 | 2.75 | 9.00 | 157.30 | 375.59 | 28.69 |
| 17 | | | 12.65 | 5.31 | | 12.65 | 22.52 | 18.83 | 41.35 | 0.1978 | 2.50 | 8.18 | 159.80 | 383.77 | 28.70 |
| 18 | | | 12.65 | 4.55 | | 12.65 | 22.86 | 18.49 | 41.35 | 0.1799 | 2.28 | 7.44 | 162.08 | 391.21 | 28.70 |
| 19 | | | 12.65 | 3.79 | | 12.65 | 23.18 | 18.16 | 41.34 | 0.1635 | 2.07 | 6.76 | 164.15 | 397.97 | 28.69 |
| 20 | | | 12.65 | 3.03 | | 12.65 | 23.46 | 17.85 | 41.31 | 0.1486 | 1.88 | 6.14 | 166.03 | 404.11 | 28.66 |
| 21 | | | 12.65 | 2.27 | | 12.65 | 23.73 | 17.54 | 41.27 | 0.1351 | 1.71 | 5.58 | 167.74 | 409.69 | 28.62 |
| 22 | | | 12.65 | 1.51 | | 12.65 | 23.94 | 17.26 | 41.20 | 0.1228 | 1.55 | 5.06 | 169.29 | 414.75 | 28.55 |
| 23 | | | 12.65 | 0.75 | | 12.65 | 24.16 | 16.99 | 41.15 | 0.1117 | 1.41 | 4.60 | 170.70 | 419.35 | 28.50 |
| 24 | | | 12.65 | 0.00 | | 12.65 | 24.32 | 16.74 | 41.06 | 0.1015 | 1.28 | 4.17 | 171.98 | 423.52 | 28.41 |
| 25 | | | | | | 0.00 | 23.86 | 17.26 | 41.12 | 0.0923 | 0.00 | 3.80 | 171.98 | 427.32 | 41.12 |
| 26 | | | | | | 0.00 | 23.38 | 17.79 | 41.17 | 0.0839 | 0.00 | 3.45 | 171.98 | 430.77 | 41.17 |
| 27 | | | | | | 0.00 | 22.84 | 18.35 | 41.19 | 0.0763 | 0.00 | 3.14 | 171.98 | 433.91 | 41.19 |
| 28 | | | | | | 0.00 | 22.29 | 18.91 | 41.20 | 0.0693 | 0.00 | 2.86 | 171.98 | 436.77 | 41.20 |
| 29 | | | | | | 0.00 | 21.67 | 19.50 | 41.17 | 0.0630 | 0.00 | 2.59 | 171.98 | 439.36 | 41.17 |
| 30 | | | | | | 0.00 | 21.04 | 20.10 | 41.14 | 0.0573 | 0.00 | 2.36 | 171.98 | 441.72 | 41.14 |
| 31 | | | | | | 0.00 | 20.37 | 20.73 | 41.10 | 0.0521 | 0.00 | 2.14 | 171.98 | 443.86 | 41.10 |
| 32 | | | | | | 0.00 | 19.64 | 21.37 | 41.01 | 0.0474 | 0.00 | 1.94 | 171.98 | 445.80 | 41.01 |
| 33 | | | | | | 0.00 | 18.87 | 22.03 | 40.90 | 0.0431 | 0.00 | 1.76 | 171.98 | 447.56 | 40.90 |
| 34 | | | | | | 0.00 | 18.06 | 22.72 | 40.78 | 0.0391 | 0.00 | 1.59 | 171.98 | 449.15 | 40.78 |
| 35 | | | | | | 0.00 | 17.19 | 23.42 | 40.61 | 0.0356 | 0.00 | 1.45 | 171.98 | 450.60 | 40.61 |
| 36 | | | | | | 0.00 | 16.29 | 24.15 | 40.44 | 0.0323 | 0.00 | 1.31 | 171.98 | 451.91 | 40.44 |
| 37 | | | | | | 0.00 | 15.34 | 24.89 | 40.23 | 0.0294 | 0.00 | 1.18 | 171.98 | 453.09 | 40.23 |
| 38 | | | | | | 0.00 | 14.30 | 25.67 | 39.97 | 0.0267 | 0.00 | 1.07 | 171.98 | 454.16 | 39.97 |
| 39 | | | | | | 0.00 | 13.24 | 26.46 | 39.70 | 0.0243 | 0.00 | 0.96 | 171.98 | 455.12 | 39.70 |
| 40 | | | | | | 0.00 | 12.10 | 27.28 | 39.38 | 0.0221 | 0.00 | 0.87 | 171.98 | 455.99 | 39.38 |
| 41 | | | | | | 0.00 | 10.90 | 28.13 | 39.03 | 0.0201 | 0.00 | 0.78 | 171.98 | 456.77 | 39.03 |
| 42 | | | | | | 0.00 | 9.65 | 29.00 | 38.65 | 0.0183 | 0.00 | 0.71 | 171.98 | 457.48 | 38.65 |
| 43 | | | | | | 0.00 | 8.32 | 29.90 | 38.22 | 0.0166 | 0.00 | 0.63 | 171.98 | 458.11 | 38.22 |
| 44 | | | | | | 0.00 | 6.93 | 30.82 | 37.75 | 0.0151 | 0.00 | 0.57 | 171.98 | 458.68 | 37.75 |
| 45 | | | | | | 0.00 | 5.45 | 31.78 | 37.23 | 0.0137 | 0.00 | 0.51 | 171.98 | 459.19 | 37.23 |
| 46 | | | | | | 0.00 | 3.90 | 32.77 | 36.67 | 0.0125 | 0.00 | 0.46 | 171.98 | 459.65 | 36.67 |
| 47 | | | | | | 0.00 | 2.27 | 33.78 | 36.05 | 0.0113 | 0.00 | 0.41 | 171.98 | 460.06 | 36.05 |
| 48 | | | | | | 0.00 | 0.56 | 34.83 | 35.39 | 0.0103 | 0.00 | 0.36 | 171.98 | 460.42 | 35.39 |
| 49 | | | | | | 0.00 | -1.55 | 35.90 | 34.35 | 0.0094 | 0.00 | 0.32 | 171.98 | 460.74 | 34.35 |
| Sum | 35.14 | 51.00 | 316.25 | 227.58 | 0.00 | 351.39 | 866.99 | 1162.36 | 2029.35 | | | 171.98 | 460.74 | | 1677.96 |

Note: Financial Generation Cost (FGC) is calculated as below:
 FGC=NPV(Own Finance + IDC + Royalty + O/M Cost + Prc Repayment + Interest Payment) / NPV(Generation Energy)
 Total Cost does not include IDC and Interest Payment for the purpose of FIRR calculation.

Financial Generation Cost in Year 0 at 10.0% discount rate 39.88 \$/MWh

Table 18.4-10 Financial Analysis (1/4) Summary of Financial Analysis

| | | | |
|---|-----------------|------------------------|------------|
| Site Name | | Xe Namnoy (Mid) | |
| Case: - B (Base) | | | |
| Construction Cost | 1,184.08 | US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 238.0 | MW | |
| Generation Energy | 1,052.0 | GWh | |
| Sending-end Energy | 936.3 | GWh | |
| Construction Cost | | | |
| Before Price Escalation | 281.81 | M.US\$ | |
| After Price Escalation | 351.31 | M.US\$ | |
| Financial Budget | 417.43 | M.US\$ | |
| Financial Items | | Lao PDR | Private S. |
| Own Finance | 26.36 | 79.05 | |
| Loan Amount | 61.48 | 184.42 | |
| IDC | 16.54 | 49.58 | |
| Royalty | - | 0.00 | |
| Total | 104.38 | 313.05 | |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indeces | | | |
| Averaged Debt Service Coverage | | 1.11 | |
| Financial Internal Rate of Return | | 2.76% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | 25 Years | |
| FIRR for the BOT Period | | 13.60% | |
| General Inflation | | | |
| Foreign | 2.80% | | |
| Domestic | 4.50% | | |
| Financial Conditions | | | |
| Interest Rate for IDC | 10.00% | | |
| Interest after Operation | 10.00% | | |
| Repayment Period | 10 yr | | |
| Graced Period | 5 yr | | |
| Government Own finance | 0.00% | | |
| Income Statement | | M.US\$ | |
| Sales Revenue | 3,163.32 | | |
| Operating Expense | 2,227.06 | | |
| Financial Expense | 110.66 | | |
| Net Income before Tax | 825.60 | | |
| Income Tax | (158.32) | | |
| Net Income | 667.28 | | |
| To the Government | | M.US\$ | |
| Royalty | 316.35 | | |
| Income Tax | 158.324 | | |
| Interest Payment to Equity | - | | |
| Net Income | 474.674 | | |
| Financial Generation Cost in | | 54.80 | |
| Year 0 for the project life time | | | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.4-10 Financial Analysis (2/4) Construction Disbursement and Loan Amount

| Dam Site: | Xe Namnoy (Mid) | | Equity Proportions | | Price Escalation per annum | | Finance Condition | | Total Construction Cost (M.US\$) | | | |
|----------------|-----------------|-------------------|--------------------|--------------------------|----------------------------|-------------|-------------------|---------------|----------------------------------|---------|---------|--------|
| | Installed | Generation Energy | Lao PDR | Private | F/C Portion | L/C Portion | IDC | Interest Rate | Finance Items | LAO PDR | PRV SCT | Total |
| Salable Energy | 936.3 GWh | | | Debt/Equity Ratio | | | | 10 years | Own Finance | 26.36 | 79.05 | 105.41 |
| Project Cost | 1184.08 \$/Kw | | | Debt | | | | 5 years | Principal Loan | 61.48 | 184.42 | 245.90 |
| F/C | 237.58 M.US\$ | | | Equity | | | | 0.00 % | IDC | 16.54 | 49.58 | 66.12 |
| L/C | 44.23 M.US\$ | | | Royalty for Construction | | | | | Total | 104.38 | 313.05 | 417.43 |
| Total | 281.81 M.US\$ | | | Royalty from Operation | | | | | Equity / Royalty Fee | 26.36 | 0.00 | - |

| Year | Disbursement before Escalation | | Price Index | | Disbursement after Escalation | | Total Disburse | | Finance Proportion | | Own Finance Portion | | Loan Portion | | Loan Cumulative | | IDC | | Royalty Fee | | | |
|------|--------------------------------|---------|-------------|---------|-------------------------------|---------|----------------|--------|--------------------|---------|---------------------|---------|--------------|---------|-----------------|---------|---------|---------|-------------|--------|------|--|
| | for F/C | for L/C | for F/C | for L/C | for F/C | for L/C | M.US\$ | M.US\$ | LAO PDR | PRV SCT | LAO PDR | PRV SCT | LAO PDR | PRV SCT | LAO PDR | PRV SCT | LAO PDR | PRV SCT | M.US\$ | M.US\$ | | |
| | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | M.US\$ | | |
| -10 | 0.00 | 0.00 | 1.0000 | 1.0000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -9 | 0.00 | 0.00 | 1.0280 | 1.0450 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -8 | 0.00 | 0.00 | 1.0568 | 1.0920 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -7 | 0.00 | 0.00 | 1.0864 | 1.1412 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -6 | 0.00 | 0.00 | 1.1168 | 1.1925 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| -5 | 21.50 | 7.25 | 1.1481 | 1.2462 | 24.68 | 9.03 | 33.71 | 33.71 | 8.43 | 25.28 | 0.00 | 2.53 | 7.58 | 17.70 | 5.90 | 17.70 | 0.59 | 1.77 | 0.00 | 0.00 | 0.00 | |
| -4 | 36.99 | 7.99 | 1.1802 | 1.3023 | 43.66 | 10.41 | 54.07 | 54.07 | 13.52 | 40.55 | 0.00 | 4.06 | 12.17 | 28.38 | 15.36 | 46.08 | 1.54 | 4.61 | 0.00 | 0.00 | 0.00 | |
| -3 | 64.46 | 11.10 | 1.2133 | 1.3609 | 78.21 | 15.11 | 93.32 | 93.32 | 23.33 | 69.99 | 0.00 | 7.00 | 21.00 | 48.99 | 31.69 | 95.07 | 3.17 | 9.51 | 0.00 | 0.00 | 0.00 | |
| -2 | 74.34 | 11.77 | 1.2472 | 1.4221 | 92.72 | 16.74 | 109.46 | 109.46 | 27.37 | 82.09 | 0.00 | 8.21 | 24.63 | 57.46 | 50.85 | 152.53 | 5.09 | 15.25 | 0.00 | 0.00 | 0.00 | |
| -1 | 40.29 | 6.12 | 1.2821 | 1.4861 | 51.66 | 9.09 | 60.75 | 60.75 | 15.19 | 45.56 | 0.00 | 4.56 | 13.67 | 61.48 | 61.48 | 184.42 | 6.15 | 18.44 | 0.00 | 0.00 | 0.00 | |
| 0 | 0.00 | 0.00 | 1.3180 | 1.5530 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Sum | 237.58 | 44.23 | | | 290.93 | 60.38 | 351.31 | 351.31 | 87.84 | 263.47 | 0.00 | 26.36 | 79.05 | 184.42 | 16.54 | 49.58 | | | | | | |

Table 18.4-10 Financial Analysis (3/4) Income Statement

| Case: B (Base) | | Xe Namnoy (Mid) | | Exporting Ratio | | 100.0% Exp. Price (\$/MWh) | | 52.41 O/M cost | | 1.5% of T. Disb | | 20.0% Initial F.A. (M.US\$) | | 417.43 | | | | | | |
|-------------------|-----------------|-------------------|---------------|---------------------|---------|----------------------------|--------------|--------------------|----------------------|---------------------|-------------------|-----------------------------|-------------------|------------|----------------------|-----------------------|--------------------|-----------------------------|---------------------------|-----------------|
| Dam Site: | | 238 MW | | Domestic Use | | 0.0% Dom. Price (\$/MWh) | | 34.93 Fuel Cost | | 0.00 \$/MWh | | 10.0% Life Time (Years) | | 50 | | | | | | |
| Generation Energy | | 1052.0 GWh | | Increase of D. Use | | 2.0% Exp. Escalation | | 1.00% | | 1.00% P Repay. | | 25.0% Initial Dep. (M.US\$) | | 8.35 | | | | | | |
| Saleable Energy | | 936.3 GWh | | Financial Condition | | Dom. Escalation | | 1.00% | | 24.59 M.US\$, p.a | | 75.0% F/C Escalation | | 2.8% | | | | | | |
| Construction Cost | | 281.81 M.US\$ | | Interest Rate (%) | | 10 | | 10 | | 2.5% U/C Escalation | | 4.5% | | 3.1% | | | | | | |
| | | Repayment P. (Yr) | | | | | | | | (not considered) | | Equiv. Escalation | | | | | | | | |
| Year | Selling Revenue | | Sales Revenue | O/M Cost | Royalty | Y. Start Fixed Asset | Depreciation | Y. End Fixed Asset | Net Operation Income | Principal Repayment | Cum. p. Repayment | Interest Payment | Income before Tax | Income Tax | Net Income after Tax | Current Asset in Cash | Debt Service Ratio | Export Price DSC=1.5 \$/MWh | | |
| | Export GWh | Domestic GWh | | | | | | | | | | | | | | | | | Export \$/MWh | Domestic \$/MWh |
| 0 | 936.3 | 0.0 | 52.41 | 34.93 | 49.07 | 5.27 | 4.91 | 417.43 | 8.35 | 409.08 | 30.54 | 24.59 | 22.13 | 8.41 | 8.41 | 38.89 | 0.83 | 85.72 | | |
| 1 | 936.3 | 0.0 | 52.93 | 34.87 | 49.56 | 5.51 | 4.96 | 421.76 | 8.61 | 413.15 | 30.48 | 24.59 | 19.67 | 10.81 | 10.81 | 39.09 | 0.88 | 82.09 | | |
| 2 | 936.3 | 0.0 | 53.46 | 35.02 | 50.05 | 5.75 | 5.01 | 425.96 | 8.87 | 417.09 | 30.42 | 24.59 | 17.21 | 13.21 | 13.21 | 39.29 | 0.94 | 78.46 | | |
| 3 | 936.3 | 0.0 | 54.00 | 35.37 | 50.56 | 6.01 | 5.06 | 430.02 | 9.15 | 420.87 | 30.34 | 24.59 | 14.75 | 15.59 | 15.59 | 39.49 | 1.00 | 74.85 | | |
| 4 | 936.3 | 0.0 | 54.54 | 35.72 | 51.07 | 6.28 | 5.11 | 433.92 | 9.43 | 424.49 | 30.25 | 24.59 | 12.30 | 17.95 | 17.95 | 39.68 | 1.08 | 71.26 | | |
| 5 | 936.3 | 0.0 | 55.08 | 36.08 | 51.57 | 6.57 | 5.16 | 437.65 | 9.73 | 427.92 | 30.11 | 24.59 | 9.84 | 20.27 | 4.05 | 39.84 | 1.16 | 67.69 | | |
| 6 | 936.3 | 0.0 | 55.63 | 36.44 | 52.09 | 6.86 | 5.21 | 441.19 | 10.03 | 431.16 | 29.99 | 24.59 | 7.38 | 22.61 | 4.52 | 40.02 | 1.25 | 64.11 | | |
| 7 | 936.3 | 0.0 | 56.19 | 36.81 | 52.61 | 7.17 | 5.26 | 444.53 | 10.34 | 434.19 | 29.84 | 24.59 | 4.92 | 24.92 | 4.98 | 40.18 | 1.36 | 60.55 | | |
| 8 | 936.3 | 0.0 | 56.75 | 37.18 | 53.14 | 7.49 | 5.31 | 447.65 | 10.66 | 436.98 | 29.68 | 24.59 | 2.46 | 27.22 | 5.44 | 40.34 | 1.49 | 57.01 | | |
| 9 | 936.3 | 0.0 | 57.32 | 37.55 | 53.67 | 7.83 | 5.37 | 450.54 | 10.99 | 439.55 | 29.48 | 24.59 | 0.00 | 29.48 | 5.90 | 40.47 | 1.65 | 53.49 | | |
| 10 | 936.3 | 0.0 | 57.89 | 37.92 | 54.20 | 8.18 | 5.42 | 453.18 | 11.33 | 441.85 | 29.27 | 0.00 | 0.00 | 29.27 | 5.85 | 23.42 | 0.00 | 0.00 | | |
| 11 | 936.3 | 0.0 | 58.47 | 38.30 | 54.75 | 8.55 | 5.48 | 455.55 | 11.68 | 443.87 | 29.04 | 0.00 | 0.00 | 29.04 | 5.81 | 23.23 | 0.00 | 0.00 | | |
| 12 | 936.3 | 0.0 | 59.06 | 38.68 | 55.30 | 8.94 | 5.53 | 457.63 | 12.04 | 445.59 | 28.79 | 0.00 | 0.00 | 28.79 | 5.76 | 23.03 | 0.00 | 0.00 | | |
| 13 | 936.3 | 0.0 | 59.65 | 39.07 | 55.85 | 9.34 | 5.59 | 459.40 | 12.42 | 446.98 | 28.50 | 0.00 | 0.00 | 28.50 | 5.70 | 22.80 | 0.00 | 0.00 | | |
| 14 | 936.3 | 0.0 | 60.25 | 39.46 | 56.41 | 9.76 | 5.64 | 460.84 | 12.80 | 448.04 | 28.21 | 0.00 | 0.00 | 28.21 | 5.64 | 22.57 | 0.00 | 0.00 | | |
| 15 | 936.3 | 0.0 | 60.85 | 39.86 | 56.97 | 10.20 | 5.70 | 461.93 | 13.20 | 448.73 | 27.87 | 0.00 | 0.00 | 27.87 | 5.57 | 22.30 | 0.00 | 0.00 | | |
| 16 | 936.3 | 0.0 | 61.46 | 40.28 | 57.54 | 10.66 | 5.75 | 462.64 | 13.61 | 449.03 | 27.52 | 0.00 | 0.00 | 27.52 | 5.50 | 22.02 | 0.00 | 0.00 | | |
| 17 | 936.3 | 0.0 | 62.07 | 40.66 | 58.12 | 11.14 | 5.81 | 462.95 | 14.03 | 448.92 | 27.14 | 0.00 | 0.00 | 27.14 | 5.49 | 21.71 | 0.00 | 0.00 | | |
| 18 | 936.3 | 0.0 | 62.69 | 41.06 | 58.70 | 11.64 | 5.87 | 462.84 | 14.46 | 448.38 | 26.73 | 0.00 | 0.00 | 26.73 | 5.35 | 21.38 | 0.00 | 0.00 | | |
| 19 | 936.3 | 0.0 | 63.32 | 41.47 | 59.29 | 12.16 | 5.93 | 462.26 | 14.91 | 447.37 | 26.29 | 0.00 | 0.00 | 26.29 | 5.26 | 21.03 | 0.00 | 0.00 | | |
| 20 | 936.3 | 0.0 | 63.95 | 41.89 | 59.88 | 12.71 | 5.99 | 461.24 | 15.37 | 445.87 | 25.81 | 0.00 | 0.00 | 25.81 | 5.16 | 20.65 | 0.00 | 0.00 | | |
| 21 | 936.3 | 0.0 | 64.59 | 42.31 | 60.48 | 13.28 | 6.05 | 459.68 | 15.85 | 443.84 | 25.30 | 0.00 | 0.00 | 25.30 | 5.06 | 20.24 | 0.00 | 0.00 | | |
| 22 | 936.3 | 0.0 | 65.23 | 42.73 | 61.07 | 13.88 | 6.11 | 457.60 | 16.34 | 441.26 | 24.74 | 0.00 | 0.00 | 24.74 | 4.95 | 19.79 | 0.00 | 0.00 | | |
| 23 | 936.3 | 0.0 | 65.89 | 43.16 | 61.69 | 14.50 | 6.17 | 454.94 | 16.85 | 438.09 | 24.17 | 0.00 | 0.00 | 24.17 | 4.83 | 19.34 | 0.00 | 0.00 | | |
| 24 | 936.3 | 0.0 | 66.54 | 43.59 | 62.30 | 15.16 | 6.23 | 451.67 | 17.37 | 434.30 | 23.54 | 0.00 | 0.00 | 23.54 | 4.71 | 18.83 | 0.00 | 0.00 | | |
| Sum | | | | | 3163.32 | 940.65 | 316.35 | | 970.06 | | 936.26 | 245.90 | 110.66 | 825.6 | 158.324 | 667.276 | 1906.32 | | | |
| | | | | | | | | | | | | | | | | | | | Average DSC for Repayment | 1.11 |

Note: Net Operation Income = Sales Revenue - O/M Cost - Royalty - Depreciation
 Income before Tax = Net Operation Income - Interest Payment
 Current Asset in Cash = Net Operation Income + Depreciation, Debt Service Ratio = Current Asset in Cash / (Principal Repay. + Interest Payment)
 The year 25 onwards are not printed in the above table intentionally.

Table 18.4-10 Financial Analysis (4/4) Financial Internal Rate of Return

| Case: - B (Base) | | | | Total construction Cost (M.US\$) | | | | Discount Rate | |
|-------------------|-----------------|-----------------------|-------|----------------------------------|---------|---------|--------|--------------------|--------|
| Dam Site: | Xe Namnoy (Mid) | Equity Proportions | | Finance Items | LAO PDR | PRV SCT | Total | Discounted to Year | 10.0% |
| Install Capacity | 238 MW | Lao PDR | 25.0% | Own Finance | 26.36 | 79.05 | 105.41 | B(enefit) | 401.6 |
| Generation Energy | 1052 GWh | Private | 75.0% | Principal Loan | 61.48 | 184.42 | 245.9 | C(cost) | 303.29 |
| | | Royalty from Operatio | 10.0% | IDC | 16.54 | 49.58 | 66.12 | B/C | 1.32 |
| Construction Cost | 281.81 M.US\$ | Lao PDR | 25.0% | Total | 104.38 | 313.05 | 417.43 | FIRR for the Year | 9 |
| | | Private | 75.0% | Equity / Royalty Fee | 26.36 | 0 | | FIRR | 2.76% |

| Year | Own Finance | IDC | Principal Repay. | Interest Payment | Royalty | Total Cost | Net Income after Tax | Depreciation + Interest | Total Income | NPV Convert Index | Net Present Value | | NPV Cumulative | | Balance B - C before Discount |
|------|-------------|-------|------------------|------------------|---------|------------|----------------------|-------------------------|--------------|-------------------|-------------------|---------|----------------|-------------|-------------------------------|
| | | | | | | | | | | | Cost | Benefit | Cost (C) | Benefit (B) | |
| -10 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.5937 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -9 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.3579 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -8 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 2.1436 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -7 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 1.9487 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -6 | 0.00 | 0.00 | | | 0.00 | 0.00 | | | 0.00 | 1.7716 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -5 | 10.11 | 2.36 | | | 0.00 | 10.11 | | | 0.00 | 1.6105 | 16.28 | 0.00 | 16.28 | 0.00 | -10.11 |
| -4 | 16.23 | 6.15 | | | 0.00 | 16.23 | | | 0.00 | 1.4641 | 23.76 | 0.00 | 40.04 | 0.00 | -16.23 |
| -3 | 28.00 | 12.68 | | | 0.00 | 28.00 | | | 0.00 | 1.3310 | 37.27 | 0.00 | 77.31 | 0.00 | -28.00 |
| -2 | 32.84 | 20.34 | | | 0.00 | 32.84 | | | 0.00 | 1.2100 | 39.74 | 0.00 | 117.05 | 0.00 | -32.84 |
| -1 | 18.23 | 24.59 | | | 0.00 | 18.23 | | | 0.00 | 1.1000 | 20.05 | 0.00 | 137.10 | 0.00 | -18.23 |
| 0 | | | 24.59 | 22.13 | | 24.59 | 8.41 | 30.48 | 38.89 | 1.0000 | 24.59 | 38.89 | 161.69 | 38.89 | 14.30 |
| 1 | | | 24.59 | 19.67 | | 24.59 | 10.81 | 28.28 | 39.09 | 0.9091 | 22.35 | 35.54 | 184.04 | 74.43 | 14.50 |
| 2 | | | 24.59 | 17.21 | | 24.59 | 13.21 | 26.08 | 39.29 | 0.8264 | 20.32 | 32.47 | 204.36 | 106.90 | 14.70 |
| 3 | | | 24.59 | 14.75 | | 24.59 | 15.59 | 23.90 | 39.49 | 0.7513 | 18.47 | 29.67 | 222.83 | 136.57 | 14.90 |
| 4 | | | 24.59 | 12.30 | | 24.59 | 17.95 | 21.73 | 39.68 | 0.6830 | 16.79 | 27.10 | 239.62 | 163.67 | 15.09 |
| 5 | | | 24.59 | 9.84 | | 24.59 | 16.22 | 19.57 | 35.79 | 0.6209 | 15.27 | 22.22 | 254.89 | 185.89 | 11.20 |
| 6 | | | 24.59 | 7.38 | | 24.59 | 18.09 | 17.41 | 35.50 | 0.5645 | 13.88 | 20.04 | 268.77 | 205.93 | 10.91 |
| 7 | | | 24.59 | 4.92 | | 24.59 | 19.94 | 15.26 | 35.20 | 0.5132 | 12.62 | 18.06 | 281.39 | 223.99 | 10.61 |
| 8 | | | 24.59 | 2.46 | | 24.59 | 21.78 | 13.12 | 34.90 | 0.4665 | 11.47 | 16.28 | 292.86 | 240.27 | 10.31 |
| 9 | | | 24.59 | 0.00 | | 24.59 | 23.58 | 10.99 | 34.57 | 0.4241 | 10.43 | 14.66 | 303.29 | 254.93 | 9.98 |
| 10 | | | 0.00 | 0.00 | | 0.00 | 23.42 | 11.33 | 34.75 | 0.3855 | 0.00 | 13.40 | 303.29 | 268.33 | 34.75 |
| 11 | | | 0.00 | 0.00 | | 0.00 | 23.23 | 11.68 | 34.91 | 0.3505 | 0.00 | 12.24 | 303.29 | 280.57 | 34.91 |
| 12 | | | 0.00 | 0.00 | | 0.00 | 23.03 | 12.04 | 35.07 | 0.3186 | 0.00 | 11.17 | 303.29 | 291.74 | 35.07 |
| 13 | | | 0.00 | 0.00 | | 0.00 | 22.80 | 12.42 | 35.22 | 0.2897 | 0.00 | 10.20 | 303.29 | 301.94 | 35.22 |
| 14 | | | 0.00 | 0.00 | | 0.00 | 22.57 | 12.80 | 35.37 | 0.2633 | 0.00 | 9.31 | 303.29 | 311.25 | 35.37 |
| 15 | | | 0.00 | 0.00 | | 0.00 | 22.30 | 13.20 | 35.50 | 0.2394 | 0.00 | 8.50 | 303.29 | 319.75 | 35.50 |
| 16 | | | 0.00 | 0.00 | | 0.00 | 22.02 | 13.61 | 35.63 | 0.2176 | 0.00 | 7.75 | 303.29 | 327.50 | 35.63 |
| 17 | | | 0.00 | 0.00 | | 0.00 | 21.71 | 14.03 | 35.74 | 0.1978 | 0.00 | 7.07 | 303.29 | 334.57 | 35.74 |
| 18 | | | 0.00 | 0.00 | | 0.00 | 21.38 | 14.46 | 35.84 | 0.1799 | 0.00 | 6.45 | 303.29 | 341.02 | 35.84 |
| 19 | | | 0.00 | 0.00 | | 0.00 | 21.03 | 14.91 | 35.94 | 0.1635 | 0.00 | 5.88 | 303.29 | 346.90 | 35.94 |
| 20 | | | 0.00 | 0.00 | | 0.00 | 20.65 | 15.37 | 36.02 | 0.1486 | 0.00 | 5.35 | 303.29 | 352.25 | 36.02 |
| 21 | | | 0.00 | 0.00 | | 0.00 | 20.24 | 15.85 | 36.09 | 0.1351 | 0.00 | 4.88 | 303.29 | 357.13 | 36.09 |
| 22 | | | 0.00 | 0.00 | | 0.00 | 19.79 | 16.34 | 36.13 | 0.1228 | 0.00 | 4.44 | 303.29 | 361.57 | 36.13 |
| 23 | | | 0.00 | 0.00 | | 0.00 | 19.34 | 16.85 | 36.19 | 0.1117 | 0.00 | 4.04 | 303.29 | 365.61 | 36.19 |
| 24 | | | 0.00 | 0.00 | | 0.00 | 18.83 | 17.37 | 36.20 | 0.1015 | 0.00 | 3.67 | 303.29 | 369.28 | 36.20 |
| 25 | | | 0.00 | 0.00 | | 0.00 | 18.31 | 17.91 | 36.22 | 0.0923 | 0.00 | 3.34 | 303.29 | 372.62 | 36.22 |
| 26 | | | 0.00 | 0.00 | | 0.00 | 17.75 | 18.47 | 36.22 | 0.0839 | 0.00 | 3.04 | 303.29 | 375.66 | 36.22 |
| 27 | | | 0.00 | 0.00 | | 0.00 | 17.15 | 19.04 | 36.19 | 0.0763 | 0.00 | 2.76 | 303.29 | 378.42 | 36.19 |
| 28 | | | 0.00 | 0.00 | | 0.00 | 16.53 | 19.63 | 36.16 | 0.0693 | 0.00 | 2.51 | 303.29 | 380.93 | 36.16 |
| 29 | | | 0.00 | 0.00 | | 0.00 | 15.84 | 20.24 | 36.08 | 0.0630 | 0.00 | 2.27 | 303.29 | 383.20 | 36.08 |
| 30 | | | 0.00 | 0.00 | | 0.00 | 15.14 | 20.86 | 36.00 | 0.0573 | 0.00 | 2.06 | 303.29 | 385.26 | 36.00 |
| 31 | | | 0.00 | 0.00 | | 0.00 | 14.40 | 21.51 | 35.91 | 0.0521 | 0.00 | 1.87 | 303.29 | 387.13 | 35.91 |
| 32 | | | 0.00 | 0.00 | | 0.00 | 13.59 | 22.18 | 35.77 | 0.0474 | 0.00 | 1.70 | 303.29 | 388.83 | 35.77 |
| 33 | | | 0.00 | 0.00 | | 0.00 | 12.75 | 22.87 | 35.62 | 0.0431 | 0.00 | 1.54 | 303.29 | 390.37 | 35.62 |
| 34 | | | 0.00 | 0.00 | | 0.00 | 11.87 | 23.57 | 35.44 | 0.0391 | 0.00 | 1.39 | 303.29 | 391.76 | 35.44 |
| 35 | | | 0.00 | 0.00 | | 0.00 | 10.93 | 24.30 | 35.23 | 0.0356 | 0.00 | 1.25 | 303.29 | 393.01 | 35.23 |
| 36 | | | 0.00 | 0.00 | | 0.00 | 9.94 | 25.06 | 35.00 | 0.0323 | 0.00 | 1.13 | 303.29 | 394.14 | 35.00 |
| 37 | | | 0.00 | 0.00 | | 0.00 | 8.90 | 25.84 | 34.74 | 0.0294 | 0.00 | 1.02 | 303.29 | 395.16 | 34.74 |
| 38 | | | 0.00 | 0.00 | | 0.00 | 7.80 | 26.64 | 34.44 | 0.0267 | 0.00 | 0.92 | 303.29 | 396.08 | 34.44 |
| 39 | | | 0.00 | 0.00 | | 0.00 | 6.66 | 27.46 | 34.12 | 0.0243 | 0.00 | 0.83 | 303.29 | 396.91 | 34.12 |
| 40 | | | 0.00 | 0.00 | | 0.00 | 5.43 | 28.31 | 33.74 | 0.0221 | 0.00 | 0.75 | 303.29 | 397.66 | 33.74 |
| 41 | | | 0.00 | 0.00 | | 0.00 | 4.15 | 29.19 | 33.34 | 0.0201 | 0.00 | 0.67 | 303.29 | 398.33 | 33.34 |
| 42 | | | 0.00 | 0.00 | | 0.00 | 2.81 | 30.10 | 32.91 | 0.0183 | 0.00 | 0.60 | 303.29 | 398.93 | 32.91 |
| 43 | | | 0.00 | 0.00 | | 0.00 | 1.39 | 31.03 | 32.42 | 0.0166 | 0.00 | 0.54 | 303.29 | 399.47 | 32.42 |
| 44 | | | 0.00 | 0.00 | | 0.00 | -0.11 | 31.99 | 31.88 | 0.0151 | 0.00 | 0.48 | 303.29 | 399.95 | 31.88 |
| 45 | | | 0.00 | 0.00 | | 0.00 | -2.07 | 32.98 | 30.91 | 0.0137 | 0.00 | 0.42 | 303.29 | 400.37 | 30.91 |
| 46 | | | 0.00 | 0.00 | | 0.00 | -4.12 | 34.00 | 29.88 | 0.0125 | 0.00 | 0.37 | 303.29 | 400.74 | 29.88 |
| 47 | | | 0.00 | 0.00 | | 0.00 | -6.27 | 35.06 | 28.79 | 0.0113 | 0.00 | 0.33 | 303.29 | 401.07 | 28.79 |
| 48 | | | 0.00 | 0.00 | | 0.00 | -8.52 | 36.14 | 27.62 | 0.0103 | 0.00 | 0.28 | 303.29 | 401.35 | 27.62 |
| 49 | | | 0.00 | 0.00 | | 0.00 | -10.90 | 37.26 | 26.36 | 0.0094 | 0.00 | 0.25 | 303.29 | 401.60 | 26.36 |
| Sum | 105.41 | 66.12 | 245.90 | 110.66 | 0.00 | 351.31 | 667.27 | 1080.72 | 1747.99 | | | 303.29 | 401.60 | | 1396.68 |

Note: Financial Generation Cost (FGC) is calculated as below.

$$FGC = \frac{NPV(\text{Own Finance} + IDC + \text{Royalty} + \text{O/M Cost} + \text{Prs Repayment} + \text{Interest Payment})}{NPV(\text{Generation Energy})}$$

Total Cost does not include IDC and Interest Payment for the purpose of FIRR calculation.

Financial Generation Cost in Year 0 at 10.0% discount rate

\$4.8 /MWh

Table 18.4-11 Financial Analysis

Summary of Financial Analysis

| | | | |
|---|-------------------------|------------------------|-------------------|
| Site Name | | Xe Namnoy (Mid) | |
| Case: - A (Case 1: Allocated T/L system) | | | |
| Construction Cost | 1,328.74 US\$/kW | | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 238.0 MW | | |
| Generation Energy | 1,052.0 GWh | | |
| Sending-end Energy | 936.3 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 316.24 M.US\$ | | |
| After Price Escalation | 394.03 M.US\$ | | |
| Financial Budget | 451.22 M.US\$ | | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 39.40 | 0.00 |
| | Loan Amount | 354.63 | 0.00 |
| | IDC | 57.19 | 0.00 |
| | Royalty | - | 0.00 |
| | Total | 451.22 | 0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |

| | |
|--|-----------------|
| Financial Indeces | |
| Averaged Debt Service Coverage | 1.84 |
| Financial Internal Rate of Return | 38.75% |
| FIRR Calculation Period | 25 years |
| BOT Period | -- Years |
| FIRR for the BOT Period | - |

| | |
|-----------------------------|--------|
| General Inflation | |
| Foreign | 2.80% |
| Domestic | 4.50% |
| Financial Conditions | |
| Interest Rate for IDC | 6.00% |
| Interest after Operation | 6.00% |
| Repayment Period | 25 yr |
| Graced Period | 5 yr |
| Government Own finance | 10.00% |

| | | |
|-------------------------|----------|---------------|
| Income Statement | | M.US\$ |
| Sales Revenue | 3,163.32 | |
| Operating Expense | 2,103.57 | |
| Financial Expense | 255.00 | |
| Net Income before Tax | 804.75 | |
| Income Tax | (152.14) | |
| Net Income | 652.61 | |

| | | |
|----------------------------|--------|---------------|
| To the Government | | M.US\$ |
| Royalty | 0 | |
| Income Tax | 152.14 | |
| Interest Payment to Equity | - | |
| Net Income | 152.14 | |

| | |
|---|---------------|
| Financial Generation Cost in | 44.71 |
| Year 0 for the project life time | |
| 10.0% Discount Rate | \$/MWh |

Table 18.4-12 Financial Analysis

Summary of Financial Analysis

| | | | |
|--|-------------------------|------------------------|-------------------|
| Site Name | | Xe Namnoy (Mid) | |
| Case: - A (Case 2: Independent T/L) | | | |
| Construction Cost | 1,306.46 US\$/kW | | |
| Equity Share | Lao PDR | Private S. | |
| | 100.0% | 0.0% | |
| Debt / Equity | Debt | Equity | |
| | 90.0% | 10.0% | |
| Installed Capacity | 238.0 MW | | |
| Generation Energy | 1,052.0 GWh | | |
| Sending-end Energy | 936.3 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 310.70 M.US\$ | | |
| After Price Escalation | 387.14 M.US\$ | | |
| Financial Budget | 443.33 M.US\$ | | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 38.72 | 0.00 |
| | Loan Amount | 348.42 | -0.00 |
| | IDC | 56.19 | 0.00 |
| | Royalty | - | 0.00 |
| | Total | 443.33 | -0.00 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 0.00% | | |

| Financial Indeces | |
|---|---------------|
| Averaged Debt Service Coverage | 1.88 |
| Financial Internal Rate of Return | 39.46% |
| FIRR Calculation Period | 25 years |
| BOT Period | -- Years |
| FIRR for the BOT Period | - |
| General Inflation | |
| Foreign | 2.80% |
| Domestic | 4.50% |
| Financial Conditions | |
| Interest Rate for IDC | 6.00% |
| Interest after Operation | 6.00% |
| Repayment Period | 25 yr |
| Graced Period | 5 yr |
| Government Own finance | 10.00% |
| Income Statement | M.US\$ |
| Sales Revenue | 3,163.32 |
| Operating Expense | 2,066.77 |
| Financial Expense | 250.80 |
| Net Income before Tax | 845.75 |
| Income Tax | (158.25) |
| Net Income | 687.50 |
| To the Government | M.US\$ |
| Royalty | 0 |
| Income Tax | 158.254 |
| Interest Payment to Equity | - |
| Net Income | 158.254 |
| Financial Generation Cost in Year 0 for the project life time | 43.92 |
| 10.0% Discount Rate | \$/MWh |

Table 18.4-13 Financial Analysis

Summary of Financial Analysis

| | | | |
|---|------------------------|------------------------|-------------------|
| Site Name | | Xe Namnoy (Mid) | |
| Case: - B (Case 1: Allocated T/L system) | | | |
| Construction Cost | 1,328.74 | US\$/kW | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 238.0 | MW | |
| Generation Energy | 1,052.0 | GWh | |
| Sending-end Energy | 936.3 | GWh | |
| Construction Cost | | | |
| Before Price Escalation | 316.24 | M.US\$ | |
| After Price Escalation | 394.03 | M.US\$ | |
| Financial Budget | 488.16 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 29.56 | 88.66 |
| | Loan Amount | 68.96 | 206.85 |
| | IDC | 18.53 | 55.60 |
| | Royalty | - | 0.00 |
| | Total | 117.05 | 351.11 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 | US\$/MWh | |
| Domestic | 34.33 | US\$/MWh | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indices | | | |
| Averaged Debt Service Coverage | | 0.97 | |
| Financial Internal Rate of Return | | -3.73% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | | |
| BOT Period | | 25 Years | |
| FIRR for the BOT Period | | 11.15% | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 10.00% | |
| Interest after Operation | | 10.00% | |
| Repayment Period | | 10 yr | |
| Graced Period | | 5 yr | |
| Government Own finance | | 0.00% | |
| Income Statement | | | |
| | | M.US\$ | |
| Sales Revenue | | 3,163.32 | |
| Operating Expense | | 2,459.28 | |
| Financial Expense | | 124.11 | |
| Net Income before Tax | | 579.93 | |
| Income Tax | | (126.71) | |
| Net Income | | 453.22 | |
| To the Government | | | |
| | | M.US\$ | |
| Royalty | | 316.35 | |
| Income Tax | | 126.706 | |
| Interest Payment to Equity | | - | |
| Net Income | | 443.056 | |
| Financial Generation Cost in | | | |
| Year 0 for the project life time | | 60.83 | |
| 10.0% Discount Rate | | \$/MWh | |

Table 18.4-14 Financial Analysis

Summary of Financial Analysis

| | | | |
|--|-------------------------|------------------------|-------------------|
| Site Name | | Xe Namnoy (Mid) | |
| Case: - B (Case 2: Independent T/L) | | | |
| Construction Cost | 1,306.46 US\$/kW | | |
| Equity Share | Lao PDR | Private S. | |
| | 25.0% | 75.0% | |
| Debt / Equity | Debt | Equity | |
| | 70.0% | 30.0% | |
| Installed Capacity | 238.0 MW | | |
| Generation Energy | 1,052.0 GWh | | |
| Sending-end Energy | 936.3 GWh | | |
| Construction Cost | | | |
| Before Price Escalation | 310.70 | M.US\$ | |
| After Price Escalation | 387.14 | M.US\$ | |
| Financial Budget | 459.97 | M.US\$ | |
| | Financial Items | Lao PDR | Private S. |
| | Own Finance | 29.05 | 87.10 |
| | Loan Amount | 67.75 | 203.24 |
| | IDC | 18.21 | 54.62 |
| | Royalty | - | 0.00 |
| | Total | 115.01 | 344.96 |
| Export/Domestic Ratio for Salable Energy | | | |
| Export | 100.0% | | |
| Domestic | 0.0% | | |
| Initial Power Tariff at year 0 | | | |
| Export | 52.41 US\$/MWh | | |
| Domestic | 34.33 US\$/MWh | | |
| Power Tariff Escalation | | | |
| Export | 1.00% | | |
| Domestic | 1.00% | | |
| Increase of Domestic Demand | 2.00% | | |
| Royalty for Construction Period | 0.00% | | |
| Royalty from Operation onwards | 10.00% | | |
| Financial Indices | | | |
| Averaged Debt Service Coverage | | 0.99 | |
| Financial Internal Rate of Return | | -2.62% | |
| FIRR Calculation Period | | 10 years | |
| BOT Period | | | |
| BOT Period | | 25 Years | |
| FIRR for the BOT Period | | 11.51% | |
| General Inflation | | | |
| Foreign | | 2.80% | |
| Domestic | | 4.50% | |
| Financial Conditions | | | |
| Interest Rate for IDC | | 10.00% | |
| Interest after Operation | | 10.00% | |
| Repayment Period | | 10 yr | |
| Graced Period | | 5 yr | |
| Government Own finance | | 0.00% | |
| Income Statement | | | |
| | | | M.US\$ |
| Sales Revenue | | 3,163.32 | |
| Operating Expense | | 2,421.75 | |
| Financial Expense | | 121.95 | |
| Net Income before Tax | | 619.62 | |
| Income Tax | | (131.41) | |
| Net Income | | 488.21 | |
| To the Government | | | |
| | | | M.US\$ |
| Royalty | | 316.35 | |
| Income Tax | | 131.408 | |
| Interest Payment to Equity | | - | |
| Net Income | | 447.758 | |
| Financial Generation Cost in | | | |
| Year 0 for the project life time | | | 59.86 |
| 10.0% Discount Rate | | | \$/MWh |