PURSE PROJECT

Private Participation in Urban Services

CASE STUDY TRAINING MATERIAL

Nusa Dua Water Supply Project - Bali
Paiton Power Project - East Java

PURSE Report No 105 00/94/012

Submitted by
Chemonics International
Jakarta Indonesia

In association with
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Sheladia Associates

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BAPPENAS
DEPARTEMEN DALAM NEGERI

DEPARTEMEN KEUANGAN
DEP PEKERJAAN UMUM

A

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INTRODUCTION

The PURSE Project prepared a scope of work for a short-term assignment to develop a series of Harvard Business School-type ' training case studies based on public-private partnership infrastructure projects in Indonesia The case studies were constructed around existing Build-Own-Operate and Build-Own-Transfer (BOO/BOT) projects, and were drawn from a list of projects identified and discussed in a report prepared by Michael Conlon, PURSE Demonstration Projects Advisor The scope of work for this assignment was carried out in support of PURSE Annual Work Plan Task 2 02

After considerable discussion with the USAID PURSE Project Officer, and with PURSE Advisors, the decision was made to modify the scope of work to focus on two important, interesting and instructive public-private partnership projects -- the Nusa Dua Water Supply Project on Bali, and the Paiton One Power Project in East Java A copy of the revised scope of work is included as an annex to this document

The active participation of private sector investors in the provision of public services is a relatively new phenomenon in Indonesia and elsewhere Consequently, public officials are only beginning to understand the benefits and risks associated with involving the private sector to bring new sources of capital and expertise to provide basic urban services Many officials are troubled or confused about a perceived conflict in their own roles in this process -- to at once provide needed to services to the people, while enabling the investors to make a reasonable return on their investments

The use of case studies as training materials is an effective means to introduce government officials to the complexity of issues and decision-making practices inherent in BOO and BOT projects Because the process of structuring such public-private transactions may seem at first overwhelming, PURSE is pursuing a multifaceted strategy of orientations and training programs, both in-country and elsewhere, to raise the "comfort level" of officials who will be responsible for such programs As the role of government officials evolves from one of being *providers* of public services to that of *managers* of the process of service provision, new skills and attitudes need to be developed By involving officials actively in the discussion of existing BOO/BOT projects in Indonesia, and examining the needs and concerns of all parties participating in the public-private partnership transaction, these case studies are intended to help facilitate this transition

The narrative case studies and accompanying training materials, including handouts and overhead transparancies, were prepared by Mr Anton Deiters, under a short-term consultancy to the PURSE Project

PURSE Project
Private Participation in Urban Services

Nusa Dua Water Supply System, Bali

Case Study

Jakarta, July 1994

Nusa Dua Water Supply System, Bali

1 0 Background

1 1 The Nusa Dua area in Bali has experienced a rapid growth in tourism marked by the construction of a number of new hotels The increase in tourism has, in turn attracted local residents With further improvements of the tourism infrastructure this process of growth is projected to continue As a result , the area's demand for water is projected to grow substantially for the foreseeable future

1 2 The Perusahaan Daerah Air Minum Kabupaten Daerah Tingkat II Badung (**PDAM**), Denpasar is the local water authority responsible for providing water supplies to the Kabupaten Badung in which Nusa Dua is located The kabupaten encompasses a long and narrow area extending from the southern tip of Bali to the area of Bon some 20 kilometers north The kabupaten has a land area of 418 52 square kilometers with a 1992 population of 272,513 persons (from a PDAM estimate) and includes the city of Denpasar, the beach resorts of Nusa Dua and Kuta and several adjacent residential areas to the north of Denpasar

1 3 PDAM officials recognized years ago that assuring the development of water supplies was key to encouraging continued growth of the tourist industry
During the 1980s, several attempts were made to develop water supplies using the traditional methods of government financing They were not altogether successful

2 0 Private Sector Involvement

2 1 On March 19, 1990 Permendagri No 4 of 1990 was issued It opened up the way for local government enterprises to form joint ventures with third, private, parties An interdepartmental team was formed to make a proposal for the formation of a public/private entity This was new territory There were at that time no such joint ventures (JVs) for water supply in Indonesia

2 2 The team concluded that a JV was feasible and suggested the formation of a limited liability company, initially for the Nusa Dua area The conclusion in favor of the JV was complemented with a suggestion for a cross-subsidy program to bring affordable water to low income groups in the area as well The new company would get a 20 year concession to sell water to the Nusa Dua area

2 3 The team then identified and selected JV partners and started negotiations with a group of three private companies which would hold 55% of the share capital of the yet to be established JV company, a separate legal entity They were
PT Mahasara Buana, Jakarta, 30%, PT Intan Dyandra Mulia, Jakarta, 20%, and
PT Dewata Artha Kharlisa, Denpasar, 5%

The local government partner would be the PDAM, and it would own 45% of the shares

3 0 The Joint Venture

3 1 The first document to be executed between parties was a Memorandum of Understanding, **MOU**, (Kesepakatan Bersama) dated September 24 1990) In it the partners agreed on the fundamentals of the new enterprise A text of the MOU is attached (in Bahasa Indonesia) The MOU gives the basic parameters of the competence of the JV and the roles of each of the partners and what each will bring into the JV to justify his equity share

3 2 Eventually the MOU led to the execution of a Joint Venture Agreement (**JVA**) the formal arrangement between the parties, and the basis for the articles of association of the legal entity into which the JV culminates The JVA was concluded on March 5, 1991 A copy, in Bahasa Indonesia, "Kesepakatan Membentuk Perusahaan Patungan" is attached The JVA calls for a limited liability company (in Bahasa Indonesia "perseroan terbatas') to be formed for a 20 year term (coinciding with the 20 year concession to treat and sell water), to be extended by mutual agreement Profits will be shared pro-rata but upon dissolution of the JV, all assets will flow to the PDAM, the minority shareholder

3 3 The PDAM 45% share is based on the net asset value of its contributions to the JV, which include the recently constructed Tukad Ayung I (**TkI**) treatment plant, the balance of the existing PDAM system in the concession area, service rights and rate compensations The total value of the PDAM contribution is reported to be Rp 6 59 billion The total cost of TkI is reported to be Rp 15 4 billion, to which PDAM contributed Rp 6 59 billion and a lender furnished Rp 8 8 billion PDAM will remain responsible for the debt service for the first two years, an amount of Rp 1 7 billion per year, thereafter, the debt service will become the responsibility of the new company

4 0 The Investments

4 1 The project to be undertaken by the JV partners consists of two phases **Phase I** of the project encompasses the integration of the already completed TkI installation (the project adopted this plant, which had been constructed prior to the formation of the JV), the development of a new treatment plant, Tk Ayung II (**TkII**), which cost Rp 15 3 billion The private partners contributed Rp 8 billion for this phase in the form of cash and letters of credit TkII was completed at the end of 1992, and operations began early 1993 The operations of TkI and TkII are integrated

4 2 In 1991, before the start of the activities of the JV, the PDAM Badung Water Supply system had a total production capacity of approx 750 L/sec Of this amount, 450 L/sec came from deep wells and 300L/sec from the new Tk Ayung I plant This modern plant

includes a barrage a lift pump station treatment plant reservoirs and distribution system and draws from the Tk Ayung River just North of Denpasar to provide water to the Kotamadva Denpasar

4 3 By the end of 1993 the project was serving seven luxury hotels one golfcourse and 2600 residential connections The collection rate is reported to be 98% and there is 29% leakage reported

4 4 **Phase II** of the project will call for the expenditure of Rp 15 billion in improvements to the distribution system This is to be financed by bank loans The improvements will upgrade the existing distribution system and extend it so that it can serve all of Nusa Dua Kuta and the adjacent beach resorts of Tanjung Benua, Belang and Legian as well as several contiguous residential areas This phase will also complete the appropriate management systems, such as the billing and collection system

4 5 As a separate activity, the JV will participate in the development and operation of a portion of the estuary reservoir located in a saltwater mangrove wetland at the mouth of the Tk Ayung river This reservoir is being developed by a French firm and is partially funded by a soft loan from the French government The reservoir is scheduled to produce initially 300 L/sec, which capacity is later to increase The output from the reservoir will be sold to the JV under undisclosed terms

5 0 The BOT

5 1 The legal entity formed by the joint venture partners is called PT Tirtaartha Buana Mulia (**TBM**) It is a Build/own-operate/transfer, or "**BOT**", company It will be allowed to recoup its investment, make a profit, and after a fixed period of time, 20 years, long enough to realize these objectives, it will hand over its assets to the public interest, in this case to the government minority share- holder/partner, PDAM PDAM will not have to pay compensation, or residual value, to TBM Along with the asset, however, PDAM will acquire the responsibility for the operation and maintenance

5 2 The limited liability company, TBM, has control over the water supply and distribution in the southern sector of the Kabupaten PDAM, by bringing into the JV the assets it owned before the JV was formed, including its distribution rights, has effectively given up control But what about the water itself, whose property is it? According to Indonesian Law, water can never be the property of the private sector The new regulations have only made possible private sector participation in water treatment and distribution, but not in water-ownership

5 3 In order to finance the activities envisaged for the second phase, the BOT will need to obtain bank financing, to be added to the cash the private partners are willing to bring in The PDAM is not likely to bring in cash Its contribution consists of an already constructed facility (**Tk I**), and certain other assets The second phase capital expenditures

are estimated to run to Rp 15 billion which is to come in part from the equity yet to be brought in from the private partners, and the balance from loans

5 4 The BOT, as does any PT in Indonesia has a Board of Commissioners and a Board of Directors The Board of Commissioners has five members, three of whom represent the public interest, and two that of the private investors The Bupati of Kabupaten Badung is President Commissioner The Board of Directors which is responsible for the day to day management is composed of three private directors, one of whom is the President Director, and two public directors

6 0 Funding

6 1 There are three capital expenditures for which funding from shareholders and/or third parties was or will be required
-- TkI facility, completed before the BOT was formed, and brought into the BOT as an asset by PDAM
-- TkII facility, accomplished during Phase I
-- Improvements in the distribution system, Phase II

6 2 The **TkI facility** was brought into the BOT by PDAM as the basis of its equity contribution Along with PDAM's net equity contribution of Rp 6 59 billion came an **outstanding loan of Rp 8 8 billion** For the first two years PDAM alone is responsible for the debt service, which is reported to amount to Rp 1 76 billion Thereafter, debt service will become the responsibility of the BOT The terms of this loan, its security arrangements, are not disclosed

6 3 The construction of **TkII** reportedly required funding of Rp 15 3 billion This has been financed in part by the private investors, in part from loans It is likely that the entire equity portion of the private investors (Rp 8 06 billion) went into the TkII facility It is not disclosed how and by which institution the balance was financed

6 4 The construction for phase II, the improvements in the distribution system, will cost an estimated Rp 15 billion as well Given that all shareholders have paid up their shares in full at the completion of phase I, the cost of Phase II will have to be financed entirely with borrowed funds There appear to be the following options

6 5 **BAPINDO,** a domestic state owned bank with a special mandate to finance longer term projects, has offered a term loan for 15 years, with two years grace, to be repaid in equal annual instalments, at an interest rate of 21% p/a, payable annually in arrears

6 6 In addition there is an offer from a **regional development banking institution** for a loan at a rate of 9% pa

6 7 The **World Bank** has been approached as well, but only in an indirect way The kabupaten would borrow from the Ministry of Finance (**MoF**), which in turn would seek reimbursement from the World Bank under the East Java/Bali Urban Development Project This project has earmarked $180 3 million, $ 50 million of which can be used for reimbursements of so-called Domestic Lending Arrangements (DLA) The terms of a DLA should be keyed to the economic life of the investment, and its interest rate indexed to the SBI index in such a way that it gradually approaches market rates

7 0 Customers

7 1 The business areas to be covered by the BOT are both the Nusa Dua and Kuta tourism resorts and their vicinity Excluded from the reach of the BOT is the administrative town of Denpasar This means that there are within the Kabupaten still areas served exclusively by the PDAM However, the facility TkI which can provide water to Denpasar has been handed over to the JV by PDAM, as a basis for its equity share

7 2 The **demand for water** in the BOT service area, and in the PDAM service area, has been projected as follows

In the BOT service area alone		In the whole PDAM service area
by 1995	300 l/sec	1,350 l/sec
by 2000	500 l/sec	1,950 l/sec

It is expected that 80% of the water volume will be sold to hotels, 20% to households

7 3 The following **tariff** is proposed

Hotels	Rp 1,300/M3 (likely to be increased to Rp 1,600 M3)
Households	Rp 300/M3

7 4 Assuming the full demand can be satisfied from the increased capacity, the **annual revenue** stream will be as follows

1995-1999 Hotels $\frac{80 \times 300 \times 60 \times 60 \times 24 \times 365 \times 1{,}300}{100 \times 1000}$ = Rp 9,839,232,000

Homes $\frac{20 \times 300 \times 60 \times 60 \times 24 \times 365 \times 300}{100 \times 1000}$ = Rp 567,648,000

2000 - on Hotels $\frac{80 \times 500 \times 60 \times 60 \times 24 \times 365 \times 1{,}600}{100 \times 1000}$ = Rp 15,137,280,000

Homes $\frac{20 \times 500 \times 60 \times 60 \times 24 \times 365 \times 300}{100 \times 1000}$ = Rp 946,080,000

8 0 Case instructions

This project can be seen from the perspective of each of at least three main parties involved

-- the private investors
-- the lenders
-- The government/PDAM

Put yourself in the position of investor, of lender and of the government/PADM see what risk each may run, what rewards each may obtain What are their respective concerns, what are their interests? The following may help you do that

8 1 The Private Investors

8 1 1 The private investors are reported to also have an interest in the hotels and the golfcourse that were, or will be, developed on Nusa Dua A reliable and plentiful watersupply is key to the viability of their tourism investments Is it therefore not possible that the private investors in TBM are motivated by something other than just the profit potential of the water supply project? Key is that it is built, that the capacity is created, because without it, the hotels will not flourish, and the golfcourse will whither

8 1 2 What the private investors are putting up in equity funds (Rp 8 06 billion) may actually be all borrowed money We know that at least part of their equity is put up in the form of letters of credit, which implies credit from the bank The investors will be very eager to see the water facility built, and be willing to approve as shareholders TBM's incurring bankloans at commercial rates, and will try to convince the bank that the project's cashflow will cover debtservice adequately But will they be willing to guarantee the loans?

8 1 3 Most revenues earned by the BOT, however, are operating expenses for the hotels (the other side of the coin!) What rates can the hotels absorb, pass on to their guests without endangering their profitability or occupancy rate? Are the private investors in the BOT really representative of the investors in the hotels? How much "overlap" of interest is there?

8 1 4 The private investors own 55% of the stock Would they have invested if only a minority position had been available? Does the 55% position give them enough control?

8 1 5 The concession period is 20 years Would the private investors want to negotiate for a longer or a shorter period, and why?

8 2 The Lenders

8 2 1 The lenders are interested in one thing only to get paid, principal and interest If they are commercial bank lenders, they will have not even have a particular 'development" agenda But what if they happen to be involved in the financing of the hotels? Would they not have an added motive for seeing the water supply secured?

8 2 2 Banks will want to understand the cashflow of the project, and how well it covers debt service Would you think that this project generates enough cash to do that?

8 2 3 Would the bankers want a "bullet" loan, (I e , a loan where the principal sum is repaid entirely or largely at the end of the term, with or without a take-out commitment from a major financial institution)? Or would they rather want a gradual repayment year by year, in accordance with the major dictates of the cashflow?

8 2 4 How would the banker secure his interests as a lender? Would he go for a mortgage? Would he insist on an an escrow arrangement to secure that portion of the cashflow that will cover debt service (interest, and principal due at any point in time) for at least one year in advance?

8 2 5 What are the major risks the bank runs? Anything that interrupts the cashflow and thus endangers debt service What could cause this to happen? Drought, drop in tourism, earthquake etc? Are these risks the bank will accept?

8 2 6 The lenders will want guarantees from the borrower's shareholders (recourse), but the shareholders want no such thing (no recourse, or limited recourse) Would the bank be able to obtain any guarantee at all? Would the bank go for a government guarantee, or for a guarantee from the private shareholders?

8 2 7 Would the bank want a mortgage on the land, the plant and equipment, the distribution system? Would it make sense to establish such security? Would it be legally possible?

8 3 The PDAM

8 3 1 The PDAM represents the public interest It is in the interest of the development of Bali and its inhabitants that tourism is developed This requires an adequate infra structure PDAM is going to be a 45% shareholder in the BOT, and thus has a measure of control in the operations of it It is however a minority interest What risks are involved for the PDAM in having the private investors own the majority of the stock? What safeguards does PDAM have to protect its interest?

8 3 2 What powers does PDAM have in times of emergency like drought? Who will decide on priority in water-rationing? As PDAM is to protect the public's interest, it is probably not difficult to guess how they will vote between watering a golf course or diverting water to populated areas But do they have the power to do so?

8 3 3 PDAM is not putting up any cash as part of its equity contribution to the BOT It contributes as equity its recently built water treatment plant, and certain other assets This means that these assets will also fall under the control of the majority shareholder What possible risk may this bring? What administrative problems may arise when water is to be sold outside the concession area? At what tariff should such water be sold?

8 3 4 After the concession period of 20 years, the entire facility will become the property of PDAM, free of charge By that time the private investors should have recouped their investments, and, more importantly, the bank be repaid Will the facility be in good working order by the time it is handed over? Will new investments or major repairs be necessary? PDAM will have the sole responsibility for providing water to its clientele which may have grown much larger than it is today

8 3 5 What is PDAM to do with the dividends it may earn? Should it put them aside to meet future capital expenditures, or for bonuses to their staff members? Would it be in PDAM's interest to negotiate a longer or a shorter concession period?

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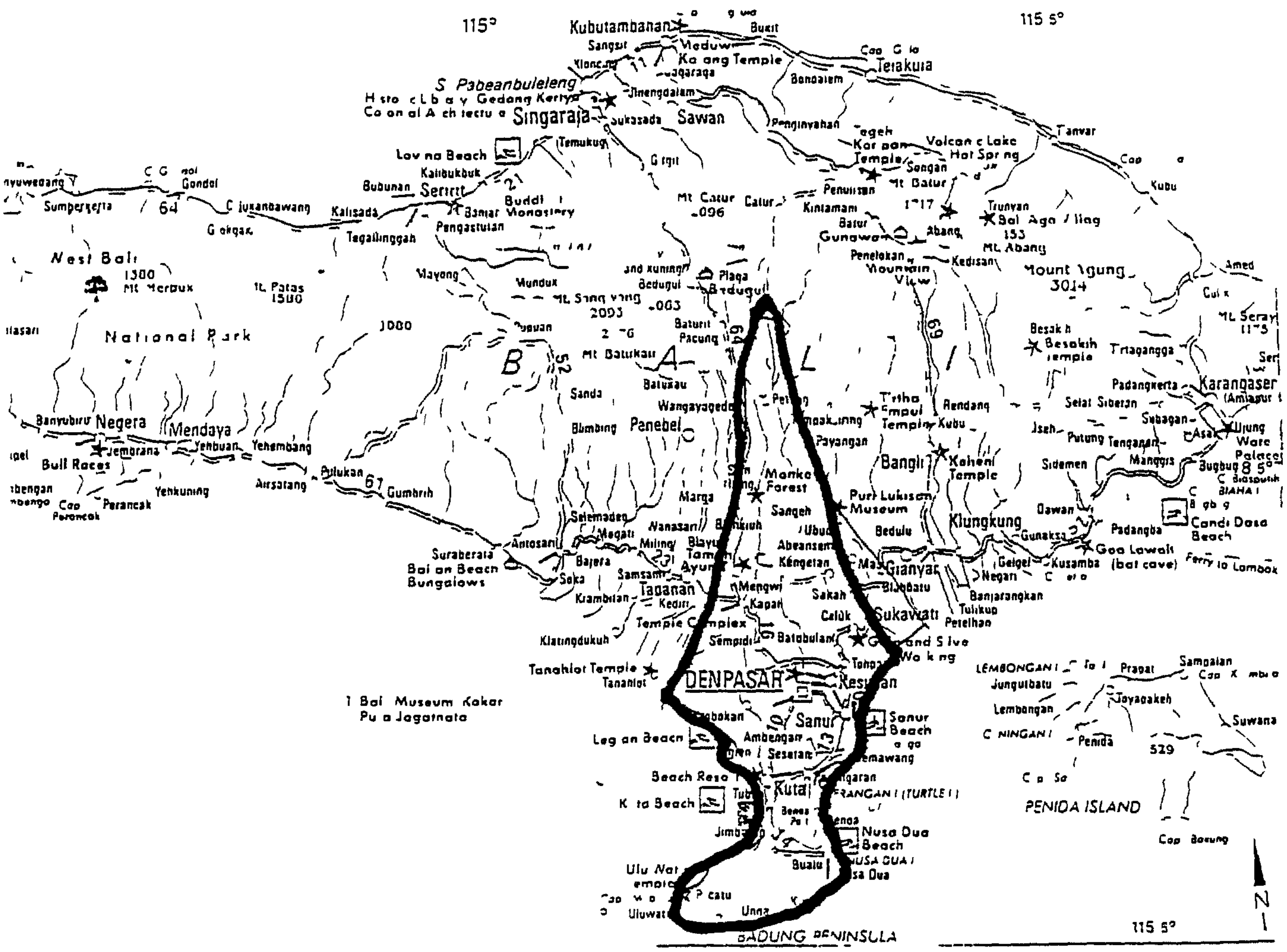
Nusa Dua Water Supply System, Balı

Map of Balı, markıng Kabupaten Badung



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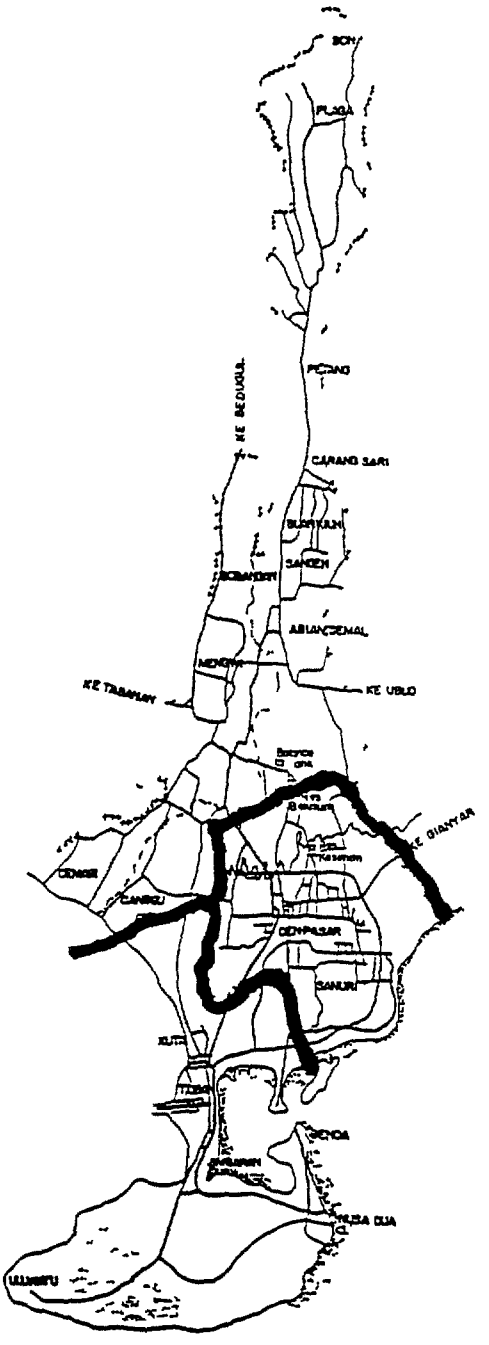
PURSE Project
Nusa Dua Water Supply System, Bali

Map of Area served by PDAM, showing three sectors

1 pedesaan
2 perkotaan
3. PT TBM



PURSE Project
Nusa Dua Water Supply System, Bali

History:

- Development of tourism
- Try to get government financing
- Permendagri No. 4, 1990
- Joint ventures allowed
- Study teams set up
- Feasibility Study
- Partner search, selection
- Negotiations
- Memorandum of Understanding, Sept. '90
- Joint Venture Agreement, March '91
- PT Tirtaartha Buanamulia formed, Oct. '92

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Nusa Dua Water Supply System, Bali

Why private investors?

- water-supply investment demand driven
- demand from investor-held hotels
- private investors can mobilize funds from their banking sources (additionality of funds)
- private investors may convince hotel owners to pay higher tariffs
- private investors may proceed with greater speed
- private investors may have access to better technology
- private investors will watch costs more carefully (bottom line effect)

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Nusa Dua Water Supply System, Bali

The BOT-Company created:

PT Tirtaartha Buanamulia

majority owned by
private interests 55%

minority owned by
PDAM 45%

Life: 20 years

Purpose:

- to construct a watersupply system
- to operate it: take-in, treat and sell water in concession area
- to turn assets and business over to government after 20 years

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Nusa Dua Water Supply System, Bali

PDAM Badung
Conditions existing before joint venture:

• production capacity (L/s)		750
• deep wells	450	
• Tukad Ayung I (TkI)	300	
• annual production (m3/yr)		23,652,000
• water tariff (Rp/m3)		125
• revenue (Rp/yr)		2,956 5 million

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Nusa Dua Water Supply System, Bali

Joint Venture Development progam

Phase I

- Manage existing Tukad Ayung I, "Tk I", installation
- Develop, build and operate Tukad Ayung II, "Tk II", plant
- Integrate Tk I and Tk II

Phase II

- Improve, extend and operate the distribution system
- participate in the estuary reservoir development project

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Nusa Dua Water Supply System, Bali

Joint Venture Development progam

Phase I

TIME SCALE

- Begun Late 1991
- Completed Late 1992
- Operational January 1993

ACCOMPLISHMENTS

- Tk II treatment plant, capacity 300 l/sec
- additional reservoir capacity
- transmission pipeline
- initial distribution system
- serving 7 luxury hotels and 2600 residences
- 98% collection rate
- 29% leakage

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Nusa Dua Water Supply System, Bali

Joint Venture Development progam

Phase II

TIME SCALE

- Begun Late 1993
- To be completed Late 1995
- Operational End of 1995

TO BE ACCOMPLISHED

- Upgrade existing distribution system
- Extend distribution to all of Nusa Dua, Kuta, Tanjung Benua, Belang and Legian beach resorts, Several contiguous areas
- Complete installation of management systems, billing and collection system
- Participate in development and opeartion of a portion of the estuary reservoir in saltwater mangrove wetland at mouth of Tukad Ayung River (a separate activity)

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Nusa Dua Water Supply System, Bali

Costs

Pre Phase I

- Construction of Tk I plant Rp 15 4 Billion
  - ♦ net equity PDAM Rp 6 5 Billion
  - ♦ outstanding bankloan Rp 8 8 Billion

Phase I

- Construction of Tk II treatment plant Rp 15 3 Billion
  - ♦ private investors Rp 8 06 Billion
  - ♦ loans Rp 7 24 Billion

Phase II

- Improvements in distribution system Rp 15 Billion
  - ♦ loans Rp 15 Billion

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Nusa Dua Water Supply System, Bali

Financing Options Phase II

- Bapindo Loan
  - 15 years
  - 2 years grace
  - repayable in equal annual instalments
  - interest rate 21% per annum payable in arrears
- Regional Development Account
  - interest rate 9% per annum
- World Bank
  - reimbursable Domestic Lending Arrangement (DLA) under East Java Bali Urban Development Project
  - interest rate indexed to SBI index to approach market rate
  - term keyed to economic life of investment

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Nusa Dua Water Supply System, Bali

Demand
In BOT service area

- by 1995: 300 l/sec
- by 2000: 500 l/sec
- 80% to be sold to hotels
- 20% to be sold to residences

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Nusa Dua Water Supply System, Bali

Tariff and Revenues in BOT service area

Tariff

- Hotels: Rp 1,300/m3
  Rp 2,000/m3 (yr. 2000)
- Residences: Rp. 300/m3

Annual revenues (100% collection rate)·

1995 - 2000

- Hotels Rp. 9.83 billion
- Residences Rp. .56 billion

2000 - on

- Hotels Rp.15.1 billion
- Residences Rp .9 billion

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Nusa Dua Water Supply System, Bali

Lenders

Concerns

- anything that impedes the cashflow
- drought, water rationing, water diversion
- drop in tourism, causing hotels to use less water, or to be slow in paying their water bills
- environmental changes, natural disasters
- environmental laws and regulations may curtail activities, require additional investments and cause increase in costs
- security arrangements guarantees, mortgages, escrow of cashflow for debt service
- gradual repayment (instalments), well within economic life of facility

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Nusa Dua Water Supply System, Bali

Private Investors

Concerns

- anything that impedes the cash flow, out of which the investments are to be recouped, dividends to be paid, after payment of O&M costs and of debt service
- drought, water rationing, water diversion
- drop in tourism, causing hotels to use less water, or to be slow in paying their bills
- senior lenders will take over in case of default on loan
- investment must be recouped solely from cash flow, there is no market for the assets
- environmental changes, natural disasters
- environmental laws and regulations may curtail activities, require additional investments and cause increase in costs
- conflict of interest with PDAM

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Nusa Dua Water Supply System, Bali

PDAM

Concerns

- minority position may be weak
- interests conflicting with those of private investors
  (i e dividend policy retained earnings versus dividends paid)
- emergency powers
- ability to sell water outside BOT concession area, but within the larger PDAM service area
- obtaining a modern well maintained facility after 20 years
- building funds to invest for repairs and improvements

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Nusa Dua Water Supply System, Bali

Agreements/Documents

- Feasibility study by interdepartmental study team
- Selection of private sector partner
- Negotiations leading to an understanding/agreement in principle
- Signing of the Memorandum of Understanding
- Application for BKPM Approval
- Negotiations with lenders
- Formal offers/Letters of Intent from lenders
- Application for Concession
- BKPM Approval
- Signing of the Joint Venture Agreement
- Granting of the Concession
- Signing of the Articles of Association
  Formation of PT Tirtaartha Buanamulia
- Signing of the Loan Agreements

PURSE Project
Nusa Dua Water Supply System, Bali

Agreements, the main elements

1 Joint Venture Agreement
- purpose, establishment, capitalization of Project Company
- rights and responsibilies of shareholders
- commissioners, directors, voting procedures

2 Articles of Association
- official document establishing the new legal entity
- to be notarized, and published in the GOI gazette

3 Loan Agreements
- amount, terms and conditions of loan
- security arrangements, mortgages, assignments

4 Project Implementation Agreement
- concession to build, own, operate and transfer
- tariffs and adjustment mechanisms
- timetables
- environmental parameters
- tax concessions/treatment

5 Escrow agreement
- appointment escrow agent
- cashflows of construction and operation phases

PURSE Project
Nusa Dua Water Supply System, Bali

Agreements

The project is the result of a number of parties, with different interests and concerns, reaching agreement or giving approval

Parties\Agreements	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
• Government, Jakarta															
• Provincial government															
• Kabupaten Badung															
• PDAM															
• Private investors															
• The project company															
• Lenders															
• Customers															
• Contractors															
• Building suppliers															
• Insurers															
• Escrow agent															
• power supplier PLN															
• Operator															

1 Joint Venture agreement
2 Implementation agreement
3 Concession Agreement
4 Loan agreement
5 Assignment Agreements
6 Escrow agreement
7 Articles of association
8 consent to assignments
9 Construction contract
10 Equipment supplier contract
11 O and M contract
12 Power supply contract
13 Retail sales contracts
14 Insurances

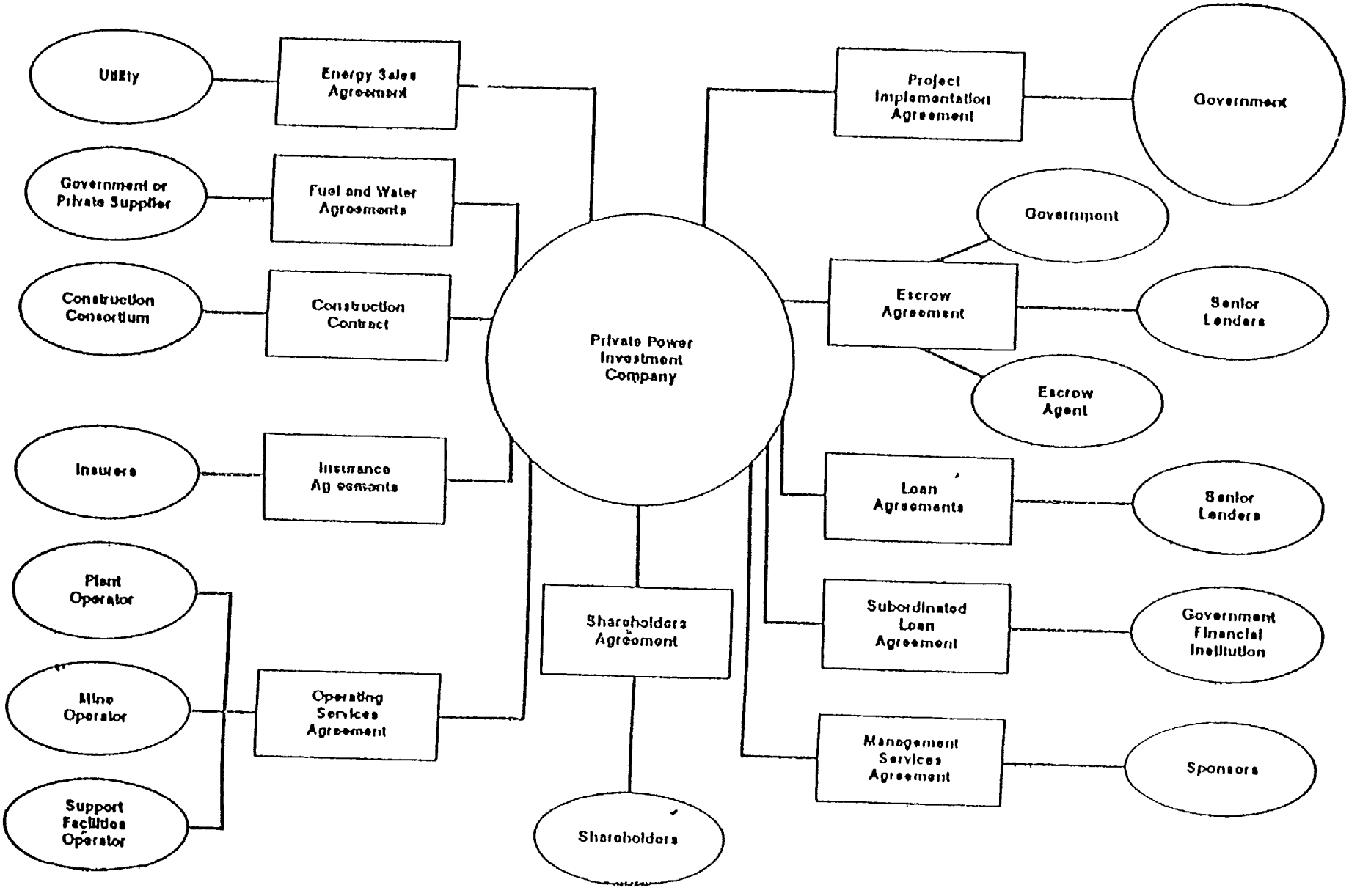
PURSE Project
Nusa Dua Water Supply System, Bali

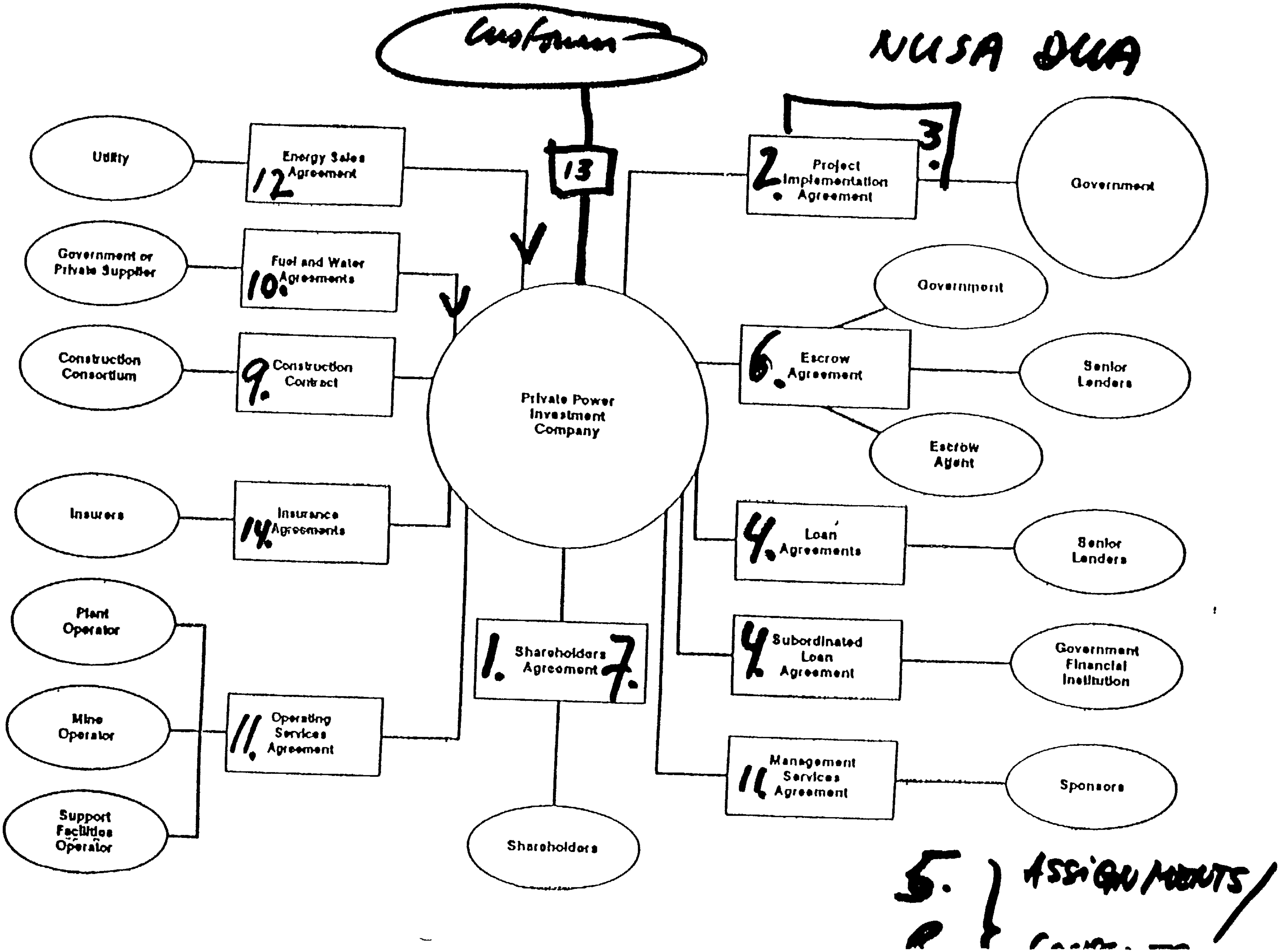
Agreements

The project is the result of a number of parties, with different interests and concerns, reaching agreement or giving approval

Parties\Agreements	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
• Government Jakarta															
• Provincial government															
• Kabupaten Badung		✓													
• PDAM	✓		✓				✓								
• Private investors	✓		✓				✓								
• The project company		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	
• Lenders				✓	✓	✓									
• Customers													✓		
• Contractors						(✓)		✓	✓	(✓)				(✓)	
• Building suppliers						(✓)		✓		✓				(✓)	
• Insurers								✓						✓	
• Escrow agent						✓									
• power supplier PLN						✓						✓			
• Operator						✓					✓				

1 Joint Venture agreement
2 Implementation agreement
3 Concession Agreement
4 Loan agreement
5 Assignment Agreements
6 Escrow agreement
7 Articles of association
8 consent to assignments
9 Construction contract
10 Equipment supplier contract
11 O and M contract
12 Power supply contract
13 Retail sales contracts
14 Insurances




Customer
NUSA DUA
13
Utility
12 Energy Sales Agreement
Government or Private Supplier
10. Fuel and Water Agreements
Construction Consortium
9. Construction Contract
Insurers
14. Insurance Agreements
Plant Operator
Mine Operator
Support Facilities Operator
11. Operating Services Agreement
Private Power Investment Company
1. Shareholders Agreement 7.
Shareholders
2. Project Implementation Agreement
3.
Government
Government
6. Escrow Agreement
Senior Lenders
Escrow Agent
4. Loan Agreements
Senior Lenders
4. Subordinated Loan Agreement
Government Financial Institution
11. Management Services Agreement
Sponsors
5. } ASSIGNMENTS/

PURSE Project
Nusa Dua Water Supply System, Bali

Deal-analysis

The most important aspect of this deal is can the private partners recoup their investment and their cost of capital, and meet all other project costs, from the income to be earned from the sale of water in the concession area

The answer must come from a cash flow analysis a prediction of moneys earned and expended over the life of the project This, in turn, requires knowledge, or reasonable assumptions of

- cost of the project
- size, terms and conditions of the loans (debt service)
- sales-volume Tariffs
- costs of operation and maintenance In particular cost of power
- taxes, levies

This necessitates early stage "sounding out" discussions with all parties involved The debt service and the main operations costs will be "givens," and serve as guideposts in the tariff negotiations

PURSE Project
Nusa Dua Water Supply System, Bali

Cash Flow Analysis

1 Cost of Project The costs of the facility total Rp 46 billion
The owners bring in Rp 15 billion The balance of Rp 31 billion will be financed by outside lenders

2 Debtservice

- Rp 15 billion BAPINDO 15 year loan at 21%,
- Rp 7 25 billion BPD loan for 10 years at 9%,
- existing loan Rp 8 8 billion 10 years at 15% (interest first two years paid by PDAM)

3 The costs of operation and maintenance are estimated at Rp 1 billion increasing annually, by Rp 0 05 billion First year Rp 6 billion

4 The water sale revenues are estimated to be

- 1995 - 2000 Rp 10 4 billion
- 2000 - on Rp 16 billion

5 Cash flow analysis (in Rp 1 billion)

year	93	94	95	96	97	98	99	00	01	02	03	04
balance bf			-4 28	-6 31	-3 15	0 04	3 02	6 03	14 6	23 1	31 6	40 0
in sales			5 00	10 4	10 4	10 4	10 4	16 0	16 0	16 0	16 0	16 0
out												
debtserv 1		-3 15	-3 15	-3 31	-3 31	-3 31	-3 31	-3 31	-3 31	-3 31	-3 31	-3 31
debtserv 2		-1 13	1 13	-1 13	-1 13	-1 13	-1 13	-1 13	-1 13	-1 13	-1 13	
debtserv 3			-1 75	-1 75	-1 75	-1 75	-1 75	-1 75	-1 75	-1 75	-1 75	-1 75
operating			-1 00	-1 05	-1 10	-1 15	-1 20	-1 25	-1 30	-1 35	-1 40	-1 45
out total			-7 03	-7 24	-7 29	7 34	-7 39	-7 44	-7 49	-7 54	-7 59	-6.51
need flow		-4 28	-6 31	-3 15	-0 04	3 02	6 03	14 6	23 1	31 6	40 0	49 5
year	05	06	07	08	09	10	11	12	13	14	15	16
balance br	49 5	60 7	71 9	83 0	94 0	104	118	132	146	160	174	188
in sales	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0
out												
debtserv 1	-3 31	-3 31	-3 31	-3 31	-3 31							
debtserv 2												
debtserv 3												
operating	-1 50	-1 55	-1 60	-1 65	-1 70	-1 75	-1 80	-1 85	-1 90	-1 95	-2 00	-2 05
out total	-4 81	-4 86	-4 91	-4 96	-5 01	-1 75	-1 80	-1 85	-1 90	-1 95	-2 00	-2 05
need flow	60 7	71 9	83 0	94 0	104	118	132	146	160	174	188	202

PURSE Project
Nusa Dua Water Supply System, Bali

Cash Flow Analysis

1 Cost of Project The costs of the facility total Rp 46 billion

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existing loan Rp 8 8 billion 10 years at 15% (interest first two years paid by PDAM)

3 The costs of operation and maintenance are estimated at Rp 1 billion/year increasing annually by Rp 0 05 billion

4 The water sale revenues are estimated to be

1995 - 2000 Rp 10 4 billion

2000 - on Rp 16 billion

In the first year ('95) only half a year's revenue is earned

5 Cash flow Analysis (in Rp 1 billion)

year	93	94	95	96	97	98	99	00	01	02	03	04
balance bf			-4 8	-6 31	3 15	-0 04	3 0	6 03	14 6	23 1	31 6	40
in sales			5 00	10 4	10 4	10 4	10 4	16.0	16 0	16 0	16.0	16 0
out												
debtserv 1		-3 15	3 15	3.31	3 31	3 31	3 31	3 31	3 31	3 31	3 31	3 31
debtserv 2		1 13	1 13	1 13	1 13	1 13	1 13	1 13	1 13	1 13	1 13	
debtserv 3			1 75	1 75	5	1 75	1 75	1 75	1 75	1 75	1 75	1 75
operating			1 00	1 05	1 0	1 15	1 _0	1 _5	1 30	1 35	1 40	1 45
out total			7 03	7 4	9	7 34	7 39	44	7 49	7 54	7 59	-6 51
accd flow		-4 _5	-6 31	3 15	-0 04	3 0_	6 03	14 6	23 1	31 6	40 0	49 _
year	05	06	07	08	09	10	11	12	13	14	15	16
balance bf	49 5	60 7	71 9	83 0	94 0	04	113	13	146	160	174	188
in sales	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0	16 0
out												
debtserv 1	3 31	3 31	3 31	3 31	3 31							
debtserv 2												
debtserv 3												
operating	1 50	1 55	1 60	1 65	70	75	1 80	1 85	1 90	1 95	2 00	2 05
out total	4 81	4 86	4 91	4 96	5 01	1	1 80	1 85	1 90	1 95	2.00	2 05
accd flow	60 7	71 9	83 0	94 0	104	113	13	146	160	174	188	02

A) debtservice during construction B) revenues for one half year sales
C) first year of positive accumulated cashflow D) higher tariff starts
E) loans 2 and 3 paid off F) BAPINDO loan paid off

PURSE Project
Private Participation in Urban Services

Paiton One Power Project, East Java

Case Study

Jakarta, July 1994

Paiton One Power Project

1.0 Background

1 1 Indonesia has a large, and unmet, demand for power, on Java and Bali in particular Power is sold by the state power company, PLN There is also private sector involvement in the sector "Captive powerplants" supply local industrial parks and companies with the power they need Private investment in power production on a large scale is however a new phenomenon in Indonesia It is considered desirable, as the funds needed for the necessary investments are not available to the government

1 2 Indonesia has very large coal deposits, in Kalimantan These need to be put to use The plan for a large-scale coal-fired powerplant in East Java was formulated in the late 70's It was revived in the late 80's The site selected for such a plant is on the north coast of the eastern end of Java, some 50 Km east of Probolinggo It can accommodate coal barges

1 3 The project as proposed will be the largest private powerplant in the country Its capacity will be 1320MW Indonesia's installed capacity is some 11,000 MW The project, called Paiton One (P-I), is only part of a larger design, calling for a total Paiton-area plant of some 4000 MW

2 0 Private sector involvement

2 1 In June 1990, GOI selected "units 7 and 8" of Paiton for private investment The initial terms of reference were issued to two private bidders in December 1990, with proposals due by May 31, 1991 Two consortia were formed, known as BNIE and BMMG The BNIE consortium more than once joined, then withdrew, from the race It finally quit altogether, presumably under pressure from GOI, when it was discovered that the group lacked serious financial muscle The only party that remained in contention was BMMG

2 2 The Government negotiating team was not always empowered to make concessions and decisions The Indonesian partner was in such instances helpful in arranging access to the Minister involved, so as to expedite the matter, and keep the negotiating process on track

2 3 After various rounds of negotiations that took more than two years, BMMG and GOI, finally reached agreement The process culminated in the signing of the key agreement, the Power Purchase Agreement, between PLN and the joint venture company formed by the members of the consortium The signing took place on February 12, 1994

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3 0 The Joint Venture Company

3 1 The company that was formed by the consortium is PT Paiton Energy Company (PEC) It is a limited liability company (Perusahaan Modal Asing, "PMA") under Indonesian law It is entirely privately owned, and is for 85% in the hands of foreign entities, while 15% is owned by Indonesian interests It has the following shareholders

- MEC International BV (subsidiary of Mission Energy) 32 5%
- Paiton Power Investment Company Co , Ltd 32 5%
- General Electric Financing C V 20%
- PT Batu Hitam Perkasa 15%

3 2 MEC International BV is Dutch company, wholly-owned by Mission Energy Company, a US entity, which in turn is owned by Southern California Energy, a large US power company

Paiton Power Investment is a Japanese company, wholly-owned by Mitsui & Co , Ltd a major Japanese manufacturing and trading conglomerate

General Electric Financing C V is a Dutch legal entity, wholly-owned by US giant General Electric

PT Batu Hitam Perkasa is an Indonesian Company Its President Director, and one of its major shareholders, is Mr Hashim S Djojohadikusumo

Each of these shareholders has a certain expertise that bodes well for the success of the venture The American companies have the technological and managerial capabilities Mitsui is very experienced in importing equipment into Indonesia, while the local partner brings excellent relations with the GOI at various levels as well as access to coal, as one of its shareholders owns a coal terminal/transshipment facility off the Kalimantan coast

3 3 PEC is a so-called "**BOO**-company" Its purpose is to build, operate and forever own the plant PEC has only one customer PLN Under a long term agreement with PLN, the Power Purchase Agreement, the output of the plant will be sold to PLN for the period of 30 years The plant will remain the property of PEC, but PLN has an option to buy it, as per the Power Purchase Agreement

4 0 The Bidding Process

4 1 The project has not been publicly tendered Two groups had been invited to submit bids, BNIE and BMMG The BNIE group did not submit its bid in time, and it withdrew from the race more than once It never submitted a serious bid and was eliminated from the contest The bid evaluation process was complicated by the fact that the tender documents called for an unusual amount of detail (1500 plus line items) Such detail might have been acceptable had the PLN wanted to become owner of the plant But it seemed exaggerated in this case

5 0 The Power Purchase Agreement (PPA)

5 1 The PPA was concluded on Februarv 12, 1994 It is the kev document of the entire project It spells out the responsibilities of the seller (PT Paiton Energy Companv) and the buver (PT PLN) In Annex G it gives full detail of the calculation of the power purchase price The price is based upon a very complicated formula Progress during the price negotiations looked as follows

BMMG					GOI
US Cents/kWh		'91	'96	'98	98
9/91		6 2151	7 7100		
4/93		7 5375	10 3151		
6/93	year	0 - 7		9 98	8 195
		8 - 13		8 73	6 005
		14 - 30		5 7	3 905
8/93 (agreement)		0 - 7		8 56	
		8 - 13		8 41 [1]	
		14 - 30		5 69 [2]	

1) Syndicated Bank loan paid off
2) EXIM Bank loans paid off

5 2 The three step price introduced in June '93 reflects the debt service schedule The bank loans are to be paid off during the first seven years, while the financing from the US and Japanese Export Import Banks should be repaid by year 14

5 3 The PPA lists as conditions precedent (conditions which must be fulfilled for the PPA to become effective, even after it has been signed) the following

- each of the documents and agreements listed in Appendix D to the PPA, "Financing Date Documents", are to be in full force and effect,
- all Governmental Authorizations, in connection with the PPA and the Financing Date documents are to have been obtained,
- Representations and Warranties of both parties are to have been duly certified and handed to the other party,
- the initial borrowing of Senior Debt shall have occurred,
- Seller shall have received a legal opinion from Legal Affairs PLN on the power of PLN to enter into the transaction

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5 4 The documents that are to be in place as condition precedent are the following

- The Construction Contract
- The Technical Assistance Agreement
- The Fuel Supply Contracts
- The Financing Agreements
- The Sponsors Agreement (The Shareholders Agreement)
- Copies of Certificates of Insurance
- The Coal Supply Plan
- The GOI Support Letter
- An amendment to SPPP issued to Sponsors by BKPM, in form and substance satisfactory to Sponsors and Seller
- The Assignment and Assumption Agreement between Shareholders and Seller
- Copy of the Letter from the Minister of Mines and Energy to PLN instructing PLN on the price

6.0 Financing

6 1 The Total cost of the plant is US$ 2 5 billion It will be financed as follows

- Owners equity US$ 6 billion
- Banks US$ 5 billion
- Exim US/Japan US$ 1 4 billion

The equity will first be "sunk into" the project, followed by the bank loans The banks are funding the first phases of construction, and will be taken out by the EXIM Banks upto a certain amount, and over a certain time The Exim loans are scheduled to be substantially off the books after year 14

6 2 The Chase Manhattan Bank is lead manager for the bank syndicate The loan documentation is confidential at this time The two Exim banks, of the USA and Japan, are studying the deal but have not yet made their final commitment Without this commitment, it would be unlikely that the project could be realized Meanwhile, in anticipation of the finalization of the financing arrangements, site clearing has begun, and groundbreaking is expected by Mid August, all to be financed by owners equity

7 0 Security Package

7 1 From the point of view of both lenders and sponsors the Letter of Awareness and Support from the Minister of Finance is a crucial document It states "In consideration of Seller entering into the PPA, the Government of the Republic of Indonesia will cause PLN, its successors and permitted assigns, to discharge PLN's payment obligations under the PPA which are due and payable and unsatisfied by PLN " This is not an unconditional guarantee, but it is a serious moral obligation on the part of GOI

7 2 The detailed security package available to the lenders is not known at this point due to the confidentiality of the negotiations and of the draft documentation We do know that there will be no guarantees from the parent companies or from the GOI The project is financed only on the basis of its projected cashflow PLN is obligated to purchase the output of the plant at agreed upon prices that can be corrected for certain changes in the cost structure such as the price of fuel Thus, PT Paiton Energy s ability to produce and deliver electricity and PLN s ability to take delivery and to pay for it are the key stones of this project As the obligations to lenders are denominated in US Dollars the price calculation mechanism allows for changes in the Rupiah-USDollar parity over a base parity (See below under 8 0 The Price)

7 3 It is therefore imperative for the lenders to have some control over the cashflow This is achieved by using an escrow account The funds paid by PLN will be put in an escrow account from which the major payments of debt service, and of operations expenditures are to be made

7 4 Lenders will find further comfort and security in assignment to them of all major contracts PPA, The Construction Contract, The Technical Assistance Agreement, The Fuel Supply Contracts, The Take-out Commitment from the Exim Banks, The Insurance Certificates

7 5 The revenue stream, and the price is denominated in US Dollars PLN will of course earn its income from the retailing of electricity in Rupiah It may make its payment to PT Paiton Energy in Rupiah, but in amounts that correspond to the obligated US Dollar equivalent The full convertibility of the Rupiah will be guaranteed by the GOI

8 0 The Price

8 1 The electricity unit price to be paid for Net Dependable Capacity and Net dependable Output consists of two parts, Capacity Payment and Energy Payment In addition, supplemental payments shall be payable in the case of

- Emergency output
- Start-up fuel costs attributable to PLN actions
- Net electrical output prior to Commission Date
- Fuel minimum payment

8 2 The Capacity Payment represents payment for the net dependable capacity and consists of two components, A and B and each shall be calculated on the basis of a three step declining structure over periods of time year 1 - 7, 8 - 13, and 14 - 30

- Component A relates the Capital Cost Recovery Charge Rate (CCR), Contract Capacity, Net Dependable Capacity, Availability Factors (projected and actual), Total hours in billing period

- Component B relates the Fixed Operation and Maintenance Cost Recovery Charge Rate (FOMR), Contract Capacity Net Dependable Capacity Availability Factors, Total Hours FOMR in turn has two components FOMR(fm), in respect of non-Rp based fixed O&M costs and FOMR(lm) in respect of Rp based fixed O&M costs

8 3 The Energy Payment represents payment for the net electrical output and also consists of two components, C and D

- Component C relates the Energy Rate Charge (ECR) in respect of fuel costs per kWh of energy produced in billing period Actual Energy received by PLN as read from the kWh metering system, the Weighted Average Specific heat Rate, the Specific heat Rate at Contract Capacity The ECR s value for the billing period is determined by the Specific Heat Rate the Higher Heating Value of Coal, and the Allowance for the Cost of Coal

- Component D relates the Variable Operation and Maintenance Cost Recovery Charge Rate (VOMR) and Actual Energy received by PLN VOMR in turn has two components, VOMR(fm), in respect of non-Rp based variable O&M costs, and VOMR(lm), in respect of Rp based variable O&M costs

8 4 Each of the four charge rates used in the components A - D is subject to adjustments, so its specific value for the billing period can be determined

- The CCR is adjusted for the Rp to US$ exchange rate variation over a base rate, applicable to the billing period

- The FOMR(fm) is adjusted for the Consumer Price Index for the United States, and the Rp to US$ exchange rate variation over a base rate, applicable to the billing period

- The FOMR(lm) is adjusted for the Indonesian Consumer Price Index

- The ECR is affected by adjustments in the allowance for the cost of coal, which, in part, is based on foreign currency costs Special calculations apply in case of a Coal Supply Force Majeure Event

- The VOMR(fm) is adjusted for the Consumer Price Index for the United States, and the Rp to US$ exchange rate variation over a base rate, applicable to the billing period

- The VORM(lm) is adjusted for the Indonesian Consumer Price Index

8 5 Each of the factors mentioned above is itself the result of a complicated calculation

In this case description, we have simplified the calculation of revenues of the project, to obtain "ball park figures"

9 0 Cash Flow Analysis

9 1 The projected cash flow of the project is a key tool for lenders and investors to determine whether they are going to recoup their investment or loan and get an adequate return in the form of dividends or interest A very simple cash flow has been prepared It is based on assumptions, as details on financing arrangements are not known at this time

9 2 Assumptions

1 **Cost of Project** The cost of the two units totals US$ 2 5 billion The owners bring in US$ 0 6 billion The balance of US$ 1 9 billion will be financed by outside lenders

2 **Debtservice**
Construction Phase, years C0- C4, interest only
Operation Phase, years O1 - O30, interest and principal

- Commercial Bank Syndicated loan of US$ 0 5 billion Taken down in years C1 and C2
  One tranche of US$ 250 million amortized over years O1-O7
  The other tranche of US$ 250 million to be paid back as "bullet" based on take-out commitment by EXIM Bank, USA, at the end of year O7 Average interest rate 10% per annum

- EXIM Bank USA
  One tranche of USD $ 800 million to be taken down in year C3, amortized over years O1-O13
  One tranche of US$ 250 million to be taken down at the end of year O7
  Interest rate 9% per annum

- EXIM Bank Japan $ 600 million to be taken down in year C4, amortized over years O1-O13 Interest rate 9% per annum

3 **Cost of Operation and Maintenance** is estimated at US$ 250 million/year As cost of coal makes up 75% of O and M cost, and the price calculation mechanism allows for adjustment in the sale price if there is a variation in the price of coal, and any other inflationary effects result in price adjustments as well (Consumer Price Index-related), the O and M costs are kept flat for the purpose of this analysis, as are the annual revenues

4 **Revenues** are based upon the price agreement reached, and set forth in the PPA year 1-7 US$ 765M/yr, year 8-13 US$ 745M/year, and year 14-30 US$ 505M/year

5 **Cash Flow Analysis (in USD 1 million)**
Spreadsheet attached

10 0 Construction Milestones

10 1 The Project has two phases, Construction and Operation For the construction period, there is the following Milestone Schedule

Milestone	Unit 7 Month	Unit 8 Month
• Financing Date	0	0
• Start of Site Mobilization	1	1
• Commencement of Works	2	2
• Mechanical completion dates		
Turbine Foundation	23	17
Boiler Steel/Drum Lifting	26	20
Inlet/discharge Canal	30	30
Chimney	34	34
Coal Jetty/handling system	34	34
Waste water treatment plant	37	37
Transformer System	37	31
Turbine Building/control room	37	31
Backfeed power for testing	38	32
Boiler pressure test	39	33
Turbine-generator installation	41	35
• Turbine roll	44	38
• Initial synchronization	45	39
• Initial firing (coal)	46	40
• Commission Date Unit 8		43
• Required commercial operation date (Unit 7)	49	

11 Other Matters Covered in the PPA

The Power Purchase Agreement is wide in scope In addition to the already mentioned matters, it covers

- The implementation of the project, including the obtaining of the necessary approvals
- Construction, including the connection with the PLN grid system Start-up and commissioning
- Operation and maintenance of the plant, including pollution control
- Billing, payment and metering

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- Covenants among others, on fuel supply, compliance with laws and use of shared facilities
- Monitoring, access to books and records, audits
- Insurance, indemnification and liability
- Force Majeure
- Termination, Representations and warranties, settlement of disputes
- Assignment, PLN's consent to assign to lenders
- Purchase option for PLN to buy the plant

The appendices to the PPA cover

- project description and design conditions
- technical limits
- price adjustments in certain events
- technical details on interconnection
- electricity measurement and testing procedures
- operating procedures
- environmental requirements and procedures
- invoicing and payment procedures
- coal price determination
- site plans

CASH FLOW ANALYSIS

PAITON ONE

Year	C				O									
	1	2	3	4	1	2	3	4	5	6	7	8	9	10
Revenue					400	765	765	765	765	765	765	745	745	745
Debt service 1	25	25	25	25	51	51	51	51	51	51	51			
Debt service 2		25	25	25	25	25	25	25	25	25	25			
Debt service 3												56	56	56
Debt service 4			36	72	107	107	107	107	107	107	107	107	107	107
Debt service 5				27	80	80	80	80	80	80	80	80	80	80
O + M					250	250	250	250	250	250	250	250	250	250
Total Out	25	50	86	149	513	513	513	513	513	513	513	493	493	493
Net flow	25	50	86	149	113	252	252	252	252	252	252	252	252	252
Accd Flow	25	75	161	310	423	171	81	333	585	837	1089	1341	1593	1845

Year	O													
	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Revenue	745	745	745	745	504	504	504	504	504	504	504	504	504	504
Debt service 1														
Debt service 2														
Debt service 3	56	56	56											
Debt service 4	107	107	107											
Debt service 5	80	80	80											
O + M	250	250	250	250	250	250	250	250	250	250	250	250	250	250
Total out	493	493	493	250	250	250	250	250	250	250	250	250	250	250
Net flow	252	252	252	254	254	254	254	254	254	254	254	254	254	254
Accd Flow	2097	2349	2601	2855	3109	3363	3617	3871	4125	4379	4633	4887	5141	5395