

The IPP Process in Indonesia

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BACKGROUND

The IPP program is the result of the realization by the Government of Indonesia that the funding and manpower requirements of its general development plan cannot be met by the Government sector. Historically, the State Electricity Utility company (PLN) have argued that they can provide electricity at lower rates than third parties. The primary basis for this argument is the State has access to lower cost capital than the private sector. This is true until the Government reaches a limit on its ability to service debt. As the demand for public services expands, Governments generally look for other methods of raising development capital. Historically the industries that have the large customer bases and represent basic services, such as telecommunications, electricity, transportation, etc. have the greatest potential for attracting foreign investment capital.

Multilateral lenders such as the World Bank and the Asian Development bank generally welcome and encourage this shifting of development responsibility from the public to the private sector. Private sector operators, once an area is identified as economic, are seen to be more efficient in the utilization of capital.

Historically the Government has borrowed about 75% of the funds needed to expand its power generation and transmission facilities. At this stage of its development the GOI sees the opportunity to shift a portion of the power generation requirements to the private sector in order that broader infrastructure development may be accomplished.

One major problem in the IPP process is that the Government structure does not have an independent review process, i.e. a public utilities commission, regulatory agency, etc. This lack of an effective independent authority forces the potential IPP to negotiate agreements with the State utility company. These negotiated Power Purchase Agreements must stand the test of time with little regard for changing economic conditions. This requirement lengthens the negotiation process. This paper attempts to discuss the IPP process in Indonesia, from a developer's view, with emphasis on unsolicited gas-fired projects.

The recent development of Indonesia's electric power sector is characterized by very rapid growth in the demand for electricity and in the total capacity of the public power supply. As an illustration, over the last 20 years, the total generating installed capacity owned and operated by PLN has increased from about 922 MW in 1973/74 to about 13,569 MW in 1993. Over this same period the number of customers served by PLN has grown by the same proportion.

Electricity Development Indicators

Indicators	1973/74	1993/94	Growth (times)
Installed Capacity (MW)	922	13,569	15
Transmission Substation Capacity (MVA)	424	26,989	64
Distribution Substation Capacity (MVA)	924	14,847	16
Energy Sales (GWH)	2,444	38,962	16
Number of Customers	1,086,105	15,157,409	14
Connected Capacity (MVA)	1,262	21,236	17
Electrification Ratio (%)	4	39	10

Source: PLN, 4/95

The present installed generating capacity of PLN has reached 14,509 MW, of which 10,712 MW (74%) is in the Java system and the remaining capacity 3,797 MW (26%) in outside Java. Table-2 shows its composition which consists of 3,688 generating units and about 940 MW new generating capacities has been accomplished and operated in 1994/95.

Power plant composition of PLN's System (4/95)

Power Plant	No. of Units	Installed Capacity MW	%
Hydro	146	2,178	15.0
Combined Cycle			
Gas Fired	18	2,372	16.3
Oil Fired	12	1,570	10.8
Steam			
Gas Fired	3	226	1.5
Coal Fired	9	2,595	17.9
Oil Fired	23	1,935	13.3
Geothermal	6	305	2.1
Gas Turbine			
Gas Fired	7	131	0.9
Oil Fired	42	1,037	7.1
Diesel	3422	2,160	14.9
Total	3688	14,509	100.0

The 1994/95 estimated energy sales is approximately 48,800 GWh (an increase of 25.3% over the sales of 1993/94), and it is noted that almost 50% of this electricity consumption was mainly for industrial use.

Based on the General Plan of National Electricity (RUKN), it has been estimated that approximately 22,237 MW would be required to meet the demand by the financial year 2003/04. The composition of this additional generating capacity is:

**Additional Generating Capacity In The Next 10 Years
(Source: PLN, 4/95)**

Power Plants	Additional Capacity	%
Hydro	4,213	18.95
Micro Hydro	123	0.55
Steam	10,120	0.55
Geothermal	1,441	45.51
Combined Cycle	4,369	19.65
Gas Turbine	1,421	6.39
Diesel	550	2.47
Total	22,237	100.00

As described explicitly in the Electricity Act No.15/1985, and also in the Presidential Decree No.37/1992, the government of Indonesia has encouraged the private sectors and the cooperative to participate in the electric power sector development. Thus, over 7,625 MW of the additional generating capacity has been allocated to be constructed by private investors up to the year 2003/04. Up to now, the IPP process has attracted many applications (over 50) with the following projects having the highest likelihood of success.

CURRENT INDEPENDENT POWER PROJECTS IN INDONESIA

Project	Fuel	Capacity (MW)	Developer	Partners	Debt (US\$000)	Equity (US\$000)
PLTU Paiton I	Coal	2 X 615	Mission Energy (32.5%)	Mitsui (32.5%),GE(20%), PT Batu Hitam (15%)	1,820,000	610,000
PLTU Paiton II	Coal	2 X 615	Siemens (50%), PowerGen (35%)	Bimantara (15%)	1,820,000	610,000
PLTGU Tanjung Jati "B"	Coal	2 X 660	CEPA	Sumitomo	1,330,000	440,000
PLTGU Serpong	Gas	400	British Gas	Bakrie Gas, PT Serpong Elektrika	276,750	92,000
PLTGU Pasuruan	Gas	500	Enron	PT East Java Power, PT Pasuruan Holdings	393,750	131,000
PLTU Tarahan	Coal	2 X 100	Southern Electric	Cohasset Resources,Bakrie Bros,PT Tarahan Power,PT Na Napu, Austindo Nusantara Jaya	255,100	85,000
PLTGU Samarinda	Gas	2 X 65	Enron	Medco	107,400	35,000
PLTGU Sengkang	Gas	135	Energy Equity	PT Trihasra	123,350	41,000
PLTU Jabar	Coal	400	Ansaldo	PT Kiani Metra Tujuh Dua	483,800	161,000
PLTU Kalbar	Coal	4 X 25	Cohasset Electric Inc	Duma Na Napu, Thermo Energy, Community Energy Alternative	135,000	45,000
PLTU Sibolga "B"	Coal	2 X 100	Mitsui	Mitsubishi, PT Yamatas	277,500	92,000
PLTU Amurang	Coal	2 X 55	CLF Energia Y Electricidad	Energy Power Dev,PT Panca Seroja Pradhana	174,000	58,000
PLTU Sibolga "A"	Coal	2 X 100	CLF Energia Y Electricidad	Energy Power Dev,PT Panca Seroja Pradhana	240,000	80,000
PLTD Pare-Pare	Oil/Gas	8 X 15	Wartsila		82,500	27,000
PLT Biogas Jabar	Waste	5 X 10	PT Sigmabina Elektrika		66,000	22,000
PLTU Awar-Awar	Coal	2 X 600	PowerGen	PT IndoPasifik Electromaka	1,800,000	600,000
PLTGU Palembang	Gas	130	Astra Group			

THE LEGAL FRAMEWORK

The Laws and Regulations

The policy of the GOI has been to develop a legal framework under which the licensing and regulation of private investments in power generation can be accommodated. The first step in the process was taken in promulgating the Law on Electricity, Law No. 15 of 1985 ("**Law 15/1985**"). Law 15/1985, while contemplating that PLN will be the predominant entity to supply electricity, establishes the policy that the private sector may participate in the production of electricity for the public use. In part, it states:

"... To further improve the capability of the Government to provide electricity ... for public use as well as their own use, in so far as the interests of the Government are not harmed, the widest possible opportunity shall be given to cooperatives and other enterprises to provide electricity based on the Electricity Enterprise Permit".

The Electricity Enterprise Permit is issued by the GOI to private entities to allow them to sell power to or for the use of the general public.

Law 15/1985 envisions the subsequent promulgation of a Government Regulation to expand and elucidate its provisions. In Indonesia, a Government Regulation is issued by the executive branch of the government and set forth policy for subsequent implementation by Presidential Decrees and Ministerial Decrees.

Government regulation No. 10 of 1989 ("**Regulation 10/1989**") expanded the policy set forth in Law 15/1985 to provide for the issuance of licenses to private parties to supply electricity to the public on the condition that "[a] private corporation whose line of business is supplying electricity to the public must be an Indonesian corporate body".

Law 15/1985 and Regulation 10/1989 are quite general in nature and neither specifically envisions projects dedicated exclusively to production of electricity for sale to PLN.

In 1991, when the GOI requested proposals from private investors for the development of the generation facilities, the GOI recognized that a more specific legal framework was required for the implementation of the Independent Power Projects (IPPs). Presidential Decree No. 37 of 1992 ("**Decree 37**") was issued to encourage private sector enterprises and cooperatives to finance, develop, own and operate electricity supply projects including generation facilities. Pursuant to Decree 37, private sector developers and investors can participate in the power sector under the following circumstances:

- in areas where PLN is already operating but cannot satisfy the demand for electricity, private power projects can generate and sell power to PLN for distribution to the public

- in areas where PLN is not operating or is unable to provide sufficient electric power, private investors are permitted, under certain conditions, to supply electricity to be sold directly to other parties or for their own use.

Pursuant to Decree 37, foreign investors can create an Indonesian domiciled company under Indonesia's Foreign Investments Law as a Special Purpose Project Vehicle (SPV). Companies incorporated under the Foreign Investment Law, have the legal authority to build and own assets and to enter into contracts with third parties for, inter alia, the borrowing of money and the sale of generated power. Decree 37 envisions several forms of private investment in the generation, transmission and sale of electrical power. Decree 37 specifies that such supply is to be undertaken pursuant to a contract (in this case, the Power Purchase Agreement) between the seller (the private investor) and the buyer (PLN) upon terms consistent with Decree 37. Decree 37 provides private power projects relief from import taxes and duties on capital goods to be incorporated into the Project.

Under Law 15/1985, Regulation 10/1989 and Decree 37, the Minister of Mines and Energy is given the authority to implement the participation of private capital in the generation and sale of electrical power. The Decree of the Minister of Mines and Energy No. 2 of 1993 (the "MME") sets forth in detail the manner in which such participation is to be undertaken.

Electricity License for Private Enterprise

The Minister of Mines and Energy (The "Minister") regulates the issuance of the electricity license to both private legal entities for the supply of electricity to the general public, and for the supply of electricity to serve their own purpose. The latter license can only be issued within a concession area supplied by PLN or license holder if PLN or the license holder is unable to supply sufficient electricity or not yet able to cover the whole concession area. However, the generation of electricity by a private enterprise for its own purposes not exceeding 200 KVA does not in principle require any license.

Electricity License for the supply of electricity for the public use may cover any of generation, transmission or distribution activities. Electricity generated by an Electricity License holder may be subsequently sold to either PLN as Authorization holder, other Electricity License holders or the general public, such sale to be governed by the so called Power Purchase Agreement (the "PPA"). Transmission or distribution activities involves the lease of transmission or distribution networks in accordance with the terms and conditions stipulated in the Lease of Transmission or Distribution Network Agreement.

THE STEPS TO A SUCCESSFUL IPP IN INDONESIA

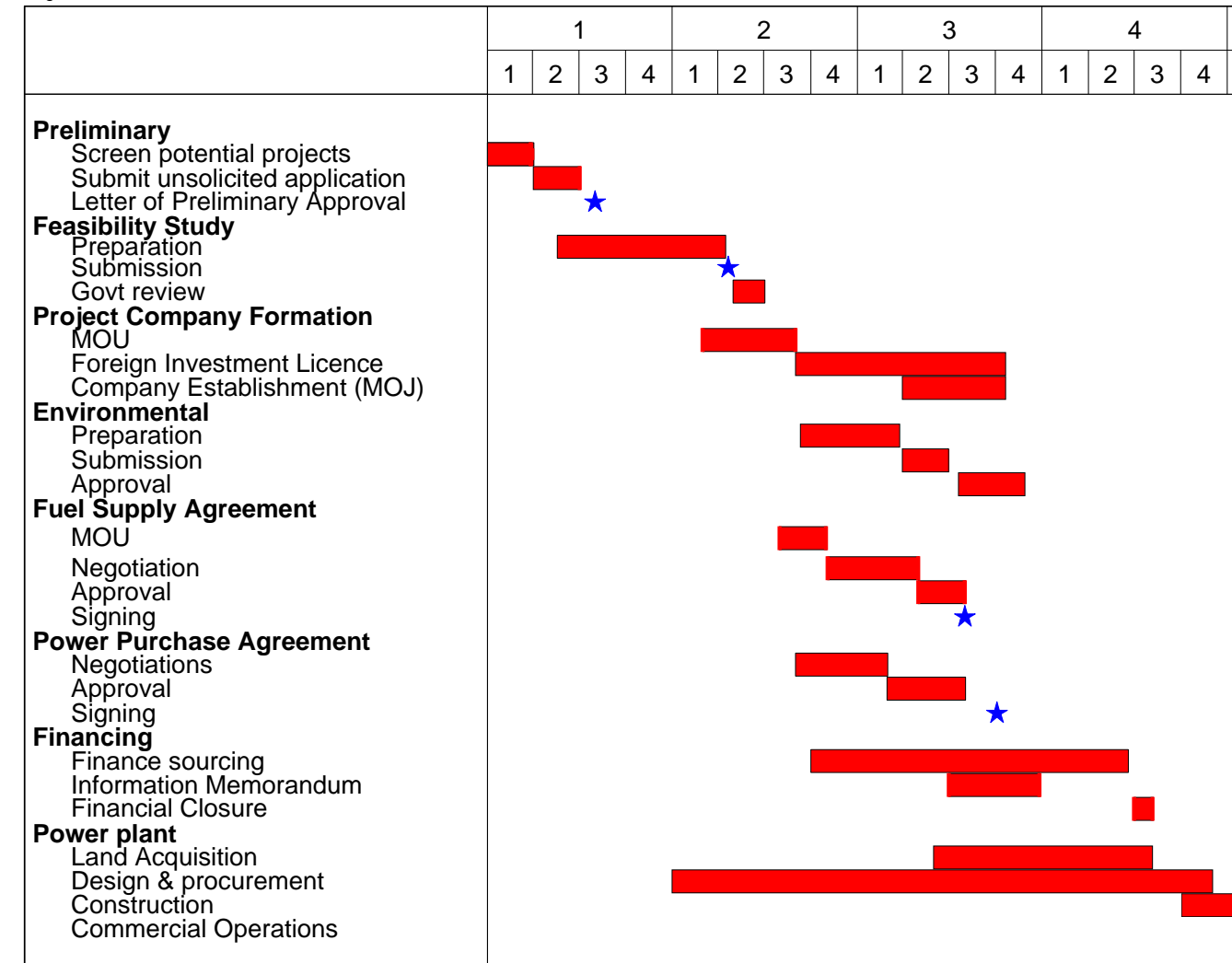
IPPs are classified into two categories by PLN - *solicited* and *unsolicited*. The solicited projects are based upon the PLN system Planning (RUKN), whereas the unsolicited projects are often based upon demand analysis and the availability of certain fuels in specific geographic areas. Further steps are described below:

- Initial screening
- Letter of Preliminary Approval
- Feasibility Study
- Submission of Terms of Reference
- Negotiation with DGEED
- PPA Signing
- Environmental Approvals
- Fuel Agreements
- Fuel Price
- Financing
- Company Approvals
- Construction
- Commercial Operations

An sample project schedule follows:

Indonesian IPP Process

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INITIAL SCREENING

Most Independent Power Projects are initiated by a combination of demand studies and access to fuel supply and submitted as “unsolicited projects”.

Solicited Projects

GOI designated projects or solicited projects under the "build, own and operate" scheme are granted to investors based on the results of a tender, participated in by those investors who have been declared pre-qualified by the GOI. The GOI will invite investors to participate in a prequalification selection for a particular solicited project or projects by announcing the opening of such prequalification selection in both international and national mass media. Investors registered to participate in the prequalification process shall be invited to attend a prequalification explanation meeting during which the GOI will explain to registered participants the particulars of the project. At this meeting prequalification documents, including the Terms of Reference for the project are given to the registered participants. Registered participants are given 30 (thirty) days to complete their respective prequalification documents to be subsequently evaluated by the GOI through the prequalification organizing committee specifically formed for that purpose. The GOI can request clarifications and verifications of items contained in the prequalification documents submitted by the registered participants, and participants are given a fortnight to respond accordingly thereto.

The GOI uses price and non-price criteria to select the best proposal. The non-price criteria includes but is not limited to the assurance that the Project can be financed and implemented according to the proposed schedule, plant efficiency, performance, availability and longevity of the plant, ability of the Plant to enhance the stability and reliability of the PLN system at the chosen concession area. Out of the registered participants, 5 (five) shall be selected and thus designated as having pre-qualified.

The next stage would then be the tender stage. The five pre-qualifiers after their announcement of having pre-qualified shall then be invited to pick up tender documents, and to submit bid proposals based on the tender documents. Evaluation by the GOI would focus on assessment of aspects such as administration, technical, environmental preservation, utilization of primary source of energy, price, financing capability, scheduling aspects of the projects, including the provision of certain guarantees for the tender.

The winner of the tender is then required to conduct feasibility studies which includes studies on technical, economical, financial aspects and environmental impact of the project, and is granted the opportunity to complete and obtain all other licenses required.

After completing the abovementioned feasibility studies, and after having approved by the GOI, the winner of the tender shall then be invited to negotiate with GOI and execute all agreements (PPA or Lease of Transmission and Distribution Network Agreement(s)) and other related agreements contained in the security package and make final project financing arrangements.

Unsolicited Projects

However, private power projects need not be those solely specifically solicited by the GOI. Investors are always welcome to propose to the GOI the development of power projects the investors considers economically feasible. An application must be made to the Minister for that purpose through the Director-General of Electricity and Energy Development. Included in such applications are data regarding the location of the proposed project, the type and capacity of the generating facility, source of primary energy used, proposed concession area, construction plans, particulars on the financing of the project, operation and maintenance plans, use of labor, both foreign and domestic, and other relevant information and documents.

Proposals submitted shall firstly be studied and assess by PLN, after completion of which the Director-General of Electricity shall then evaluate the proposal, taking into account PLN's assessment of the proposal. Evaluation would be focused on the same aspects as applicable for solicited projects. Should the GOI accept the proposal concerned, it will promulgate a preliminary approval letter, commonly called a **Letter of Preliminary Approval (LPA)**, simultaneously requesting the applicant to conduct similar feasibility studies as to those found in solicited projects, and subsequently when approved, invited to negotiate with the GOI, ultimately leading to the execution of project documents and agreements. Such preliminary approval letter can be used to commence application for the investment license to be issued by the Capital Investment Coordinating Board (BKPM)

Project construction in both solicited and unsolicited projects is required to commence in 180 days after the date of promulgation of the investment license.

The Electricity License shall be granted for 30 years commencing of the date of commercial production for coal-fired plants and 20 years for those fueled by gas.

FEASIBILITY STUDY

The Feasibility study (also known as the response to the Terms of Reference) is a large document that not only includes supply and demand forecasts, Technical Data, but also Tariff Proposals and Draft Agreements and Financing Plans.

Typical sections for this feasibility study are :

Definition of Terms

Project Background

Project Objective and Scope of Work

Implementation Proposal Background

- Technical
- Financial
- Commercial

Implementation Proposal Structure

- General
 - Site Conditions
 - Land Provisions
 - Public Roads (use of)
 - Environmental Regulations
 - Construction Facilities
 - Contractions/Consultants
 - Indonesia content
- Engineering Procurement and Construction
 - Design
 - Access to review developer's design
 - Tropicalisation of the works
 - Standards and codes
 - Guarantee data
 - Interconnections
 - Testing during commissioning

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- Operations and Maintenance
 - Dispatch of the units and scheduled maintenance
 - Training

 - Fuel Supply
 - Source of the fuel(s)
 - Fuel supply agreement

 - Sale, Pricing of electricity
 - PPA
 - Payment by PLN
 - Tariff proposal guidelines

 - Other Commercial Conditions
 - Project Company
 - Insurance
 - Implementation Program
 - Project Financing
 - Laws and Regulations
 - Force Majeure
 - Investment guidelines
 - Other Information

 - Prenegotiation meeting and Provision of additional Information
 - Right of Assignment
 - Dispute Resolution
 - Proposal Submission

Evaluation Criteria

Documents and Appendices

- a. Map of area
- b. Technical Data Sheet
- c. List of guaranteed data
- d. Time schedule
- e. Environmental data sheet
- f. Plant Maintenance and Spare Part Management Program
- g. Estimated construction Costs
- h. Proposal electricity tariff
- i. Documentation to be submitted to GOI or PLN

- j. Documentation to be submitted during site construction to GOI or PLN
- k. Minimum scope of Site Performance Test
- l. For Developers Commitment Documents
- m. Bank guarantees for developer
- n. Model PPA
- o. Environmental Impact Study and Monitoring Plans
- p. Draft Panel supply movement
- q. Banks' expression of interest
- r. Letter of GOI approval for Project Financing
- s. Draft O & M agreement
- t. Risk Allocation Assumptions
- u. Draft Articles and Association of Project Company
- v. Preliminary Insurance Report
- w. Preliminary Financing Plan
- x. Development Team Organization
- y. Contractor's Capability
- z. Developers' financial references.

NEGOTIATION WITH THE GOVERNMENT

Negotiations with the Director-General's officials center around the PPA and are conducted initially in general or Plenary sessions. As issues emerge, these discussions are broken up into **commercial**, **technical** and **legal** categories, and are handled by different negotiating teams. Sometimes, more than 50 people can be involved in these discussions at one time. If issues cannot be resolved by the specialized teams, then they are referred to increasingly higher levels of management.

Recommendations from the Government are referred for approval by a Senior level team that includes personnel from PLN, the Director-General's Department and the Ministry of Mines and Energy.

It is believed that this process will change in the 4th quarter of 1995, with all PPA negotiations to be handled in the future by the Planning Directorate of PLN, with assistance from the Government representatives of the Director-General of Electricity and Energy Development.

It should be noted that the DGEED and PLN personnel are very experienced and have built up their own database of costs, e.g.

Cost Comparison of Base Load Generation Plants

Source: PLN, 4/95

Item Cost	Unit	Combine Cycle 600 MW	Coal Fired 600 MW	Geo Thermal 65 MW	Mine Mouth 2000 MW	Combined Cycle 600 MW	Nuclear Plant 600MW
Capital Cost ¹	\$/kW %	700	1204	1150	1878 ²	2900	2900
Capacity Factor							
1st year		50	55	80	55	50	55
2nd year		55	60	80	60	55	60
3rd year		60	65	80	65	60	65
4th year to 15th		65	70	80	70	65	70
from 16th year to end of economic life time decreased by 2 % per year							
Fuel Cost	mills/kW	20.6 ³	14.9 ⁴	24.6	11.6 ⁵	28.44 ⁶	10.00
O & M cost							
O & M Fixed	\$/k/w-yr	21.0	24.1	28.8	20.0	21.0	87.0
O & M Variable	mills/k	0.1	0.1	0.1	0.1	0.14	0.05

Notes:

- 1) Costs exclusive of VAT, but including interest during construction.
- 2) Costs of HVDC transmission Line (674 \$/kW) and additional cost for specific boiler for mine mouth power plant of 10 % are included.
- 3) Based on natural gas price of 2.53 US\$/ton MSCF for 252,000 kcal/MSCF.
- 4) Based on coal price of 34 US\$/ton for 5300 kcal/kg
- 5) Based on coal price of 10 US\$/ton for 2000 kcal/kg
- 6) Based on natural gas price of \$3.50/MSCF (ex. Kalimantan, including pipelines).

ESTABLISHMENT OF PROJECT COMPANY

The Project Company, or Special Purpose Vehicle (SPV), must be established as a Limited Liability Company under Indonesian law (in Indonesian: Perseroan Terbatas, abbreviated "P.T."). This is commonly preceded by a Memorandum of Understanding ("MOU"), which is not only prudent in order to set up the framework of an alliance, but also to establish a "paper-trail" for later tax submissions.

Ownership

The rules for investment in private power were recently changed in the May, 1995 Deregulation Package. A foreign company cannot now have 100% ownership, but must have at least 5% Indonesian content. It is noted that most of the existing IPPs have already complied with this.

Reserving a company name

It is advisable to obtain an official reservation of the tentative name of the proposed company. This should be done even prior to submission of the Model I/PMA Form. Although the name in the application is only considered to be the tentative name, but a later change of the tentative name (due to agreement between the founders) or if the tentative name is not acceptable to the Department of Justice, would result in unnecessary administrative procedures.

Execution of the Articles of Association

The Articles of Association of the Foreign Investment Company must be signed by the parties before a notary public. The Foreign Investment Company may be established immediately upon received of the Notice Letter of the Presidential Decision.

Ratification by Minister of Justice

The Notary must submit the executed Articles of Association to the Department of Justice for their ratification. This procedures will take approximately 2-3 months.

The Department of Justice will check as to whether the Articles of Association conform with the investment approval (including name of the company, share participation and amount of equity capital).

Registration with District Court

Once the Minister of Justice has approved the Articles of Association, the company is fully incorporated. the approved Articles of Association must be registered with the District Court having the jurisdiction over the Foreign Investment Company.

Publication in Indonesian State Gazette

After registration with the District Court, the approved Articles of Association and the registration of the Articles of Association together with the District Court registration must be published in the Indonesian State Gazette.

Taxes

Project Companies are subject to generally applicable Indonesian taxes. These include income taxes, value added taxes, property taxes and various regional and local taxes. The Power Purchase Agreement provides for a tariff adjustment for changes in Indonesian taxes applicable on the signing date of the Power Purchase Agreement. The Project Company is however eligible for some import duty and import value added tax relief under Decree 37 as implemented by the Decree of the Minister Finance No. 128/KMK.00/1993 dated February 10, 1993 which provides for exemption of import duties and additional import duties, and deference of Value Added Tax subject to the fulfillment of conditions as elaborated in the decree. A more detailed discussion is included later in the paper.

ENVIRONMENTAL APPROVALS

The regional Government and Land Agency are responsible for issue and monitoring of permits for site location, building, transportation, water usage etc. and land rights. The Government is responsible for approving the Environmental Impact Study and monitoring environmental matters through Power Plant operation.

This includes all work necessary for preparation, submission and approval of the Environmental Impact Study, Analisa Dampak Lingkungan (AMDAL) and Monitoring Reports (RKL and RPL) and collection and analysis of all data relevant to Plant details design and Site selection.

The AMDAL, RKL and RPL needs to be presented to the AMDAL Central Committee of the Ministry of Mines and Energy, with approval commonly within 3 months after the final presentation.

THE POWER PURCHASE AGREEMENT (THE "PPA")

The PPA cannot usually be signed until the Tariff, PPA terms and conditions, AMDAL and Fuel Supply Agreement (including price and delivery provisions) are approved by the Minister of Mines and Energy, or can be signed with these items as "conditions precedent".

The PPA signing also requires receipt of notification by BKPM of Presidential approval for the PMA Company

The PPA, as the principal contractual document, contains a section for the investor to indicate all commercial and legal terms governing the sale of electric power from the Project Company to PLN. Penalties and compensations in response to any deviations from the contract terms set in the PPA shall be also stipulated in the PPA. Summarized below are key issues addressed in the PPA.

Conditions Precedent

- EPC or Construction Contract
- The O & M Agreement
- Fuel Supply Agreement
- Financing Agreements
- Certificates of Insurance
- Government of Indonesia Support "Comfort" Letter
- Investment License (SPPP) issued by the Chairman of the Foreign Investment Board (BKPM)

General Rights and Obligations of the Parties

The Project Company (The "Seller") will have obligations under the PPA which would most probably include the following:

- Design, engineer and construct the Project, which could include the Plant (consisting of the electricity generating units and major equipment systems such as the steam generator (boiler) units, steam turbine generator, coal handling system, an ash handling system, a seawater desalinization system reverse osmosis system and a seawater flue gas scrubber system) and the "Special Facilities" (switchyard and other civil work including the water intake and discharge channels).
- Operate and maintain the Plants in accordance with prudent utility practices.
- Apply for, and use diligent efforts to obtain, all consents and other governmental authorization required to be in the Project Company's name.
- Negotiate the financing agreements, construction contract, operations and maintenance contract and fuel supply agreements.
- Use all reasonable effort to achieve financial closing to occur within the specified time period (12 months from PPA signing).

- Achieve commercial operation of the Plant within the specified time period.
- Obtain and maintain sufficient insurance coverage for the Plant.
- Provide security for the Site.

PLN (the “Purchaser”) will have the obligations under the PPA which would most probably include the following:

- Purchase the Net Dependable Capacity and Net Electrical Output of the Plant.
- Cooperate with Seller in identifying and securing all consents and governmental authorizations required for the Project, and apply for, and use diligent efforts to obtain, all consents and other governmental authorizations that are required to be in PLN’s name.
- Provide the Project Company with electrical power and other utilities during construction at applicable tariff rate.
- Provide the Project Company with light fuel oil required for the start-up, testing, commissioning and operation of the Plant.
- Operate and maintain the intake/discharge canals, provide fire-fighting equipment and provide customs clearance support to the Project Company.

Tariff and Tariff Adjustment

Tariff Structure; the proposed tariffs are broken down into capacity and energy payments, and were initially (in the early negotiations) divided into three different time periods:

COAL-FIRED

1 - 7 years
8 - 13 years
14 - 30 years

GAS-FIRED

1 - 6 years
6 - 12 years
12 - 20 years

However, it is understood that future Power Purchase Agreements will have a “flat” tariff

The tariff payment formula is divided into four components (excluding transmission issues):

Capacity Payment, which includes all capital items, as well as engineering, financing, debt repayment, construction, testing and commissioning costs

Fixed O & M, which is to be adjusted according to CPI at negotiated intervals

Fuel Cost, which is dependent upon the Fuel Supply Agreement

Variable O & M, which is to be adjusted according to CPI at negotiated intervals

The Tariff adjustment mechanism would be triggered in the event the Project Company incurs material cost (or realizes material savings) as a result of the following events:

- any change in Indonesian law (including, in particular, laws relating to taxes) after the date of the PPA.
- any environmental requirements being applied to the Project other than those specified in the PPA.
- any action or failure to act without justifiable cause by any governmental instrumentality of the Republic of Indonesia (including in particular actions or inactions with respect to required permits and consents and the importation of supplies and equipment); or
- any delay in the construction of the Project because of the delay or default by PLN in the performance of its obligations under the PPA.

Fuel Supply Agreement

The sourcing of energy for the project is treated as a “pass-through” item. Hence whilst the fuel price is negotiated by the IPP and the supplier, the Fuel Supply Contract must be approved by the Government.

A detailed discussion of the gas agreements are included, and the terms and conditions generally apply, be it gas, coal or geothermal steam that is used as the energy source.

Payment Mechanism

Payment for electricity shall be made by PLN in Rupiahs to an escrow account established by the Project Company at a bank in Jakarta, Indonesia. Based on Indonesian banking regulations and investments law, the Rupiah shall be freely convertible by the Project Company to foreign currencies as required to service the project's financial obligations.

Thus the PPA contains provisions designed to protect the project Company against both exchange rate fluctuation risk and foreign exchange availability risk.

Force Majeure

The PPA contains standard force majeure provisions, which provide relief to either party if it is prevented from performing under the PPA due to events which are not within the reasonable control of such party. These include acts of war, public disorder, insurrection, rebellion or violent demonstrations, explosions, fires, natural calamities and acts of God, and strikes or lockouts by workers or employees.

The Project Company should also ensure that with respect to the project Company, force majeure specifically includes any action or failure to act without justifiable cause by any governmental instrumentality of the Republic of Indonesia, including any failure or delay in granting government consents or permits for the importation of equipment and supplies, and the adoption, enactment or change of any Indonesian legal requirement that was not applicable to the Project as of the date of the PPA (any such event a “Governmental Action”).

The effects of Force Majeure would need to be differentiated in terms of the date of its occurrence during the specified milestones. For example, if a Governmental Action occurs prior to commercial operation date that delays the completion of the Project for more than a certain specified period, the Project Company should have the right to terminate the PPA, in which case PLN will be obligated to purchase the Project for a price calculated to ensure repayment of all outstanding debt, the return of the Shareholders' capital and an agreed equity return.

Fuel Supply Force Majeure Events

Special attention should be given to Coal Supply Force Majeure Events which are specifically designed to provide relief to the Project Company in the event of any disruption in the supply of coal to the Project, except where attributable to the failure of the Project Company to perform under its Fuel Supply Agreement.

In such an event a “Qualifying Alternate Coal” mechanism would take place for which environmental reliefs must appropriately be addressed.

To our knowledge, this does not occur with gas supply, as Pertamina does not necessarily guarantee supply of alternative gas, thus it is not uncommon for financiers to request a “dual-fuel” option to ensure security of supply.

Default and Termination

The PPA divides “events of default” into Remediable Events and Non-remediable Events each having its own consequences depending upon the respective milestones of the Project in which the default occurs and which party to the PPA is in default.

Settlement of Disputes

Expert proceedings, apart from customary mediation or conciliation and arbitration obligations, are uniquely used in the PPA for specific events of dispute between Seller and Purchaser. Examples of these expert proceedings are:

- in the event of termination of the PPA whereby PLN is obligated to purchase the Project at a price to be determined by an expert or experts
- in the event of a failure to reach an agreement as to the coal price in the annual negotiations between the Project Company and PLN. A specific appendix in the PPA would be provided to specify the components of the coal price which should be taken into account by the expert in determining the coal price.

GAS SALES CONTRACT AND GAS SUPPLY AGREEMENT

The major factors in the Gas Supply Agreement between the PSC operator and Pertamina and the Gas Sales Contract (between Pertamina and the IPP) are:

Consistency with other agreements in the energy sales chain, especially the Power Purchase Agreement between the IPP developer and PLN, as well as the Production Sharing Contract and the applicable governing Laws and Regulations.

Operating Procedures should provide for the operational issues of nominations, communication, billing, and reporting as well as being consistent with similar SOPs in other projects

The discussion here is somewhat generic, but the concepts are common to most Contracts and Agreements in Indonesia, and in South East Asia. Although gas agreements as fuel for IPPs are different to LNG contracts, comparisons have been made when appropriate.

We have described these agreements in somewhat greater detail than may be felt necessary, but it is our observation that there is a lack of industry discourse on these topics in Indonesia.

A table with characteristics of existing gas fuel agreements with PLN follows:

Technical Parameters of Existing Gas Agreements with PL					
ITEMS	PALEMBANG	BELAWAN/ PAYAPASIR	SUNYARAGI	GRESIK (Arco)	G (K
Validity (year)		15	10	20	
Starting Delivery	1983	1987	1987	1993	
Net Calorific, value [BTU/SCF]					
Lower	950	1000	950	950	
High	-	1365	1200	1200	
Water Content [lbs/MMSCF]	15	10	10	10	
Sulfur Content [gr/MSCF]	-	0.15	0.15		
H ₂ S Content [PPM]	-	4		1 grain/100SCF	
CO ₂ Content [% volume]	-	-	-	-	
Pressure [PSIG]	200	365	260	300	
Temperature [F]					
Low	-	18° F above dew point	18° F above dew point	18	
High	-	120	120	120	
Specific Gravity [gr/l]					
Low	-	0.6	0.6	0.6	
High	-	0.8573	0.8	0.8	
Gas Supply					
Daily Min. [MMSCFD]	4.5	26.15	11.04	242	
Daily Max. [MMSCFD]	10	36	16.72	325	
Annual [BSCF]	1.6-3.6	11.88	5.54	88.3	
Cumulative [BSCF]		178.2	55.45	1683.2	
Gas Price [US\$/MMBTU]	3.00	3.00	3.00	2.53	
Escalation/Indexation	Nil	Nil	Nil	Nil	

Agreement for Sale and Purchase

Although it can be very short, the Agreement for Sale and Purchase is the foundation of a gas contract. This is a short clause which simply says that the Seller agrees to sell and the Buyer agrees to buy gas, on the terms set out in the contract.

Start-Date

The Contract will specify a date, known as the Start-Date on which deliveries of gas will commence. With effect from that date the Buyer is entitled to make nominations and the Seller is obliged to deliver. If the Buyer is not ready to take, then Take or Pay obligations will start to build-up, unless the Buyer can plead Force-Majeure. Similarly, if the Seller is not ready then he may be liable for penalties, for failure to meet the Buyer's nominations. This can be avoided if the Seller is successfully able to invoke the Force-Majeure provisions of the contract.

Delivery Point

It is important to establish exactly at which point the gas is delivered from Seller to Buyer. This is because prior to the Delivery Point the Seller has to pay for transportation cost, thereafter the responsibility, and the cost lies with the Buyer. This is a little more confusing in Indonesia where Pertamina receives gas from the supplier, and delivers to the buyer (i.e. IPP).

In a pipeline contract with gas being delivered from a field offshore then the Delivery Point could either be at the landing point for the pipeline or at the premises of the Buyer. The price at the latter point would normally be higher to allow for the costs of onshore transportation.

Quantities

One of two most important elements in a pipeline gas contract are the quantities provisions, which govern the amount of gas to be applied on any one day. The main elements are :

Delivery Capacity - The Delivery Capacity is the maximum daily amount that the Buyer can nominate and which the seller is obliged to deliver. It will generally be specified in the contract as an amount per day, for example, 150 mmcf/d. The Delivery Capacity represents the peak daily capacity available under the contract.

Minimum Nomination and Zero Nomination - As gas-field production equipment does not always work satisfactory at very low levels, it is customary for there to be a minimum quantity that the Buyer can nominate for delivery on any day. This is generally set as a fixed daily production rate. Although many gas sales contracts do allow the Buyer to nominate zero, the Buyer will not be allowed to nominate quantities between zero and the Minimum Nomination Level.

Obligation to Deliver - The Contract will generally oblige the Seller to deliver any quantity of gas nominated by the Buyer, so long as that nomination lies between the Minimum Nomination Level and the Delivery Capacity. The Seller commonly will be relieved from this obligation to deliver only by circumstances which constitute Force Majeure.

Excess Gas - Although the Seller's obligation is to deliver gas up to the Delivery Capacity level, the Buyer will generally have some rights to request greater volumes, known as Excess Gas. However, the obligation on the Seller to deliver such Excess Gas will be less onerous, generally reasonable endeavors or something similar. Excess gas will normally be paid for at a premium to the normal contract price.

Nomination Procedure - The Contract will also lay down a procedure for the time when the daily or weekly nomination of gas volumes should be made by the Buyer. It will also specify the Buyer's rights to vary the nomination at short notice and the speed with which the Seller must respond to such changes.

Under-Deliveries and Force Majeure

The penalties for failure to perform contractual obligations by both Buyer and Seller will depend essentially on a concept known as Force-Majeure. This defines a set of circumstances which are beyond the reasonable control of the Party concerned.

A simple definition of a Force Majeure event could be *"an event that is not the reasonable control of the Party but only if the event could not have been prevented with reasonable diligence; and the effected Party must notify the other Party and describe actions to mitigate"*

However, Force Majeure definitions unfortunately can vary very widely from contract to contract. Some of these are relatively loose, for example, in some LNG contracts any failure to perform caused by an accident or damage to a Buyer's or Seller's facilities is automatically relieved by Force-Majeure unless it was caused by Willful negligence on the part of the Party concerned. Willful Negligence is generally defined as a deliberate attempt on the part of the management of the Party concerned to disregard the terms of the Contract.

The alternative approach is not to allow Force-Majeure relief to a Party unless they have met a specified standard of behavior. For example, in gas contracts in Britain, relief would only be available if the Party had observed the standard of care exercised by a Reasonable and Prudent Operator. This could be an operator working in the same circumstances and seeking to meet its contractual obligations.

The consequences of a failure to deliver the nominate volume vary significantly between gas contracts.

A gas sales contract will not only lay down the quantities of gas the Buyer is entitled to nominate on a day, it will also deal with a failure to deliver. This is known as an Under-Delivery, and the consequences will depend on the circumstances which lead to the failure. If the Seller was prevented from producing or delivering gas as a result of "Force-Majeure". Then the consequence will be that the Buyer's Take or Pay Obligation (described in the following section) will be reduced by the amount of gas that the Seller failed to deliver.

If on the other hand, the Seller is unable to claim Force-Majeure relief, then not only will there be an equivalent reduction from the Take or Pay Obligation, but the Buyer will also have the alternative of imposing one of two further sanctions. Firstly, he could sue the Seller for damages in the courts. If, for example, the Seller failed to deliver gas worth one million dollars and the Buyer had to purchase alternative supplies, which cost one and a half million dollars, then he could go to court to claim damages for the extra half a million dollars. Alternatively, the Buyer could classify the under-delivery as Shortfall Gas. This will mean that the Seller then has to deliver an equivalent quantity of gas to the Buyer in the future at a discount to the normal contract price. The Shortfall Price is generally between 50 and 100 % of the normal price.

Take or Pay

Although the situation is starting to change now, there has generally been no spot market for gas outside the confines of long-term gas sales contracts. As there is only one buyer in each contract, the Seller needs a form of guaranteed income before he can justify the investment needed to develop a gas field. This has led to the almost universal use of the "Take or Pay" concept. That is the parties will agree a guaranteed minimum quantity for each year. If the Buyer takes less than this amount, he will

pay for the balance not taken. The “Take or Pay” amount for gas contracts will generally be related to the amount of capacity provided by the Seller under the contract.

In a gas contract the basis for the calculation will be *the Annual Contract Quantity* or (ACQ). This is generally the sum of the Delivery Capacities in effect throughout the year. The “Take or Pay” Amount will be set as a percentage of the ACQ, typically between 70 and 100%. However, there are normally some adjustments to this basic quantity, to arrive at the final obligation:

Take or Pay Amount:

(X)% of the ACQ less:

- Underdeliveries by the Sellers
- Quantities of Gas that the Buyer was unable to accept for reasons of Force-Majeure
- Gas that is “off-spec”

If in any year, the Buyer takes less than the Take or Pay Amount, then after the end of that year he will pay for the amount of gas not taken, multiplied by the average gas price for that year.

Make-Up / Carry Forward

As it would be very harsh on a Buyer to continually pay for gas not taken without any means of recovery, most gas sales contracts will contain Make-Up and Carry-Forward provisions. These allow a Buyer’s Take or Pay obligations to be averaged out over the life of the contract. Once a Buyer has made a Take or Pay payment, then these volumes will go into a Make-Up “bank”. If at some point in a future year, the Buyer has taken the Take or Pay Amount for that year before the year end, then he can start to take gas free of additional charges, up to the amount of Make-Up outstanding.

The Carry Forward provisions work in a similar fashion. If the Buyer takes more than the Take or Pay Amount in any year, then he will receive a credit for the overtake. This is aggregated with all overtake credits from previous years as a Carry Forward Balance. Thereafter, if the Buyer takes less than the Take or Pay Amount, then he can reduce his liability by the amount of the Carry Forward Balance.

Many gas contracts may limit the extent to which Make-Up can be utilized. For example, the Contract may specify that only a limited amount of Make-Up gas can be utilized per year, for example, 10% of the ACQ or the Annual Quantity. In addition, agreements may also specify that if the Make-Up gas is not taken within a fixed period, for example, within four years of the year in which it arose, then the Make-Up will be lost and the Buyer will receive no compensation.

The way in which these two systems work can be illustrated as follows. Throughout the period illustrated, the Take or Pay Amount or obligation is 100 units. In year one, the actual take is only 90 units, so a Take or Pay payment of 10 has to be made. This means the Buyer enters year two with 10 units of Make-Up. In year two, take is only 90 units, so a Take or Pay payment of 10 has to be made. In year two, take is equal to the Take or Pay obligation and so the Make-Up Balance is taken forward unchanged into year three. In year three, take exceeds the obligation by five units so these units are taken free of charge and a reduced Make-Up Balance of five units goes forward to year four. In year four, take again exceeds the obligation by five units. These are also free of charge, thereby eliminating the Make-Up Balance. In contrast in year five, gas take is twenty units above the minimum level and so this goes into a Carry Forward Balance for year six. In this final year, the Buyer undertakes by twenty units but does not have to make a Take or Pay payment, as it is exactly covered by the Carry forward Balance.

Contract Length/Termination

In most Contracts, the contract length is fixed at the outset and at the close of the period, the contract will end. For example, if the Start Date is 1st January 1998 and the Contract is for 15 years, it will terminate automatically on 31st December 2012. In some contracts (especially LNG) there may be a facility to extend the contract period. The length of existing gas sales contracts with PLN were illustrated in the previous table.

FUEL PRICE (GAS)

The aim of the pricing mechanism is to try and reconcile the very differing interests of the Buyer and the Seller in the longer term and to produce a price which shares the risks in an equitable fashion. For the Seller the aim is two-fold. Firstly, to have a price which reflects the value of the gas in the market place from time to time. Secondly, the price mechanism should provide the producers with the confidence to make the substantial investments needed to develop gas-fields. From the point of view of the Buyer, it is helpful if the change in the price of gas matches that of the other fuels for electricity generation. Overall, a Power Generation buyer's aim in setting price provisions is to ensure that electricity can be generated at an acceptable profit throughout the lifetime of the contracts.

Gas Contracts Pricing Formulae

For short-term sales covering one year or less, gas is normally sold on a fixed price basis. However, for periods longer than this, the price is generally re-calculated on a regular basis by means of a price formula. This can be a multiplicative formula of the type shown below. This is simply an illustration, the actual escalators and weights used will vary considerably from contract to contract.

$$P_n = P_o \times \left(0.2 \times \frac{GO}{GO_o} + 0.3 \times \frac{FO}{FO_o} + 0.5 \right)$$

In this example, a Base Price (P_o) is multiplied by the changes in the value of the escalators over time. The current price of Gas-Oil (GO) is divided by the historic price of Gas-Oil (GO_o) and the resultant number is multiplied by the percentage weight assigned to that indicators, 20% in the case of Gas-Oil. This process is repeated for each of the indicators. The 0.5 signifies that 50% of the price is fixed or unescalated. The results of individual calculations are then summed and multiplied by the Base Price (P_o) to generate the adjusted price (P_n).

In some parts of the world, notably Western Europe (apart from Great Britain) an Additive Formula is more common.

$$P_n = P_o + (0.5 \times F1 \times GO - GO_o) + (0.5 \times F2 \times LSFO - LSFO_o)$$

In this case, the historic Gas-Oil price (GO_o) is deducted from the current Gas-Oil price (GO). A proportion of this, determined by the "pass-through" factor ($F1$), is then multiplied by the percentage weight assigned to Gas-Oil, 0.5. This process is repeated for the other indicators such as Low Sulphur Fuel-Oil (LSFO) and the total set of price-changes are aggregated and added to the Base Price P_o , in order to generate the gas price P_n .

In Indonesia, it has been proposed that a pricing formula based upon the successful Indonesian Crude Reference Price (ICRP) could be used.

For example, a suggestion has been to set the initial gas price at ICRP parity, then adjust monthly with a combination of an index of ICRP and High Speed Diesel (HSD).

$$P_n = P_o \times \left[0.5 \left(\frac{ICRP_n}{ICRP_o} \right) + \left(\frac{HSD_n}{HSD_o} \right) \right]$$

Where P_n = gas price at year n and P_o = initial gas price, etc.

The mechanism of gas price formulae

Frequency of Recalculation

The contract will define the times at which the price under the contract will be re-calculated using new data. This review frequency is a matter for discussion between Buyer and Seller. In many parts of the World, recalculation in the first month of each quarter is fairly standard. There are a couple of key issues which underlie the frequency of re-calculation. If both Buyer and Seller are concerned that the price of gas should as closely as possible reflect the price of competing fuels in the market place, then ideally the price should be recalculated as frequently as possible. However, if the price is re-calculated on a quarterly or monthly basis, then the average price payable over the life of the contract will be slightly higher than if yearly price escalation rise, rather than fall over the lifetime of the project.

For example, if we have indicators rising at 1% per quarter and 100% escalation, then the quarterly price escalation will produce prices which are 1.52% higher on average, than those for yearly price escalation. Therefore, for Buyers who do not mind the possibility of a competitive disadvantage for short periods when prices have dropped, infrequent price escalation will probably result in slightly lower gas prices on balance over the life of the contract. Conversely, it is generally in the interest of gas sellers to review prices as frequently as possible.

Base Period and Review Period

It is also necessary to define exactly what data should be used when the prices are re-calculated. In our pricing formulae the denominator values, i.e. GOo, FOo, etc, are taken from a period known as the base period, which is generally the period immediately prior to the period to which the Base Price applies.

The choice of Base Period is once again purely a matter for negotiation between Buyer and Seller, however, it is essential that the period chosen should be one for which price data to be used has already been published. Otherwise there will be no certainty as to what price has actually been agreed.

The numerator values in the price equation, GO and FO, etc., will be taken from what is known as the Review Period. Each contract will define a period in relation to the date on which the price is re-calculated. A fairly common Review Period is 12 months date ending immediately prior to the Review Date.

As the aim of the pricing mechanism is to reflect the change in the value of indicators over time, it is important that the period of price growth used each year exactly matches the number of years since the price was first calculated, or the price will either include too much of the change in the value of the indicators or too little. Therefore, the relationship between the period to which the Base-price initially applies and the Base Period, should be identical to the relationship between the period to which the new price applies and the Review Period.

One final word of warning on Base Periods. Many price escalators, notably the oil market ones, can vary a great deal from the long-term trends in the short term. If you pick up a Base Period where the indicators were above and, then gas price will in future be below the expected levels and vice versa.

GAS PRICE ESCALATORS

There are a large number of indicators that can be used in gas price formulae and this section will review each of these, noting the advantages and disadvantages of each from the point of view of both Buyer and Seller:-

Crude Oil

LNG

Crude-oil is used as escalation mechanism for most if not all LNG contracts in South-East Asia and Australia. From the point of view of the sellers, who are almost invariably oil producers, the use of crude-oil is a link to a market which they are very familiar with. In addition the crude oil market is generally perceived as being a relatively open market, free of government intervention and price controls. Finally the costs of offshore platforms and equipment may be linked to the price of crude-oil. This informal linkage may reduce the risk to the sellers of cost overruns on gas development.

The attraction from the LNG buyers point of view is a little harder to reduce although at times of low oil prices it clearly has some advantage.

The choice of crudes in an LNG contract may also be significant. If the contract is an f.o.b. one then the appropriate price to use may be the f.o.b. price of crude-oil. However if the LNG is sold on a delivered basis, then the normal procedure is to use the delivered or c.i.f prices of crude-oil landed in the importing country, e.g. Japan.

Gas

In gas contracts the use of crude-oil as an escalators is much rarer. Generally, buyers of gas, or of electricity generated from gas, feel that Crude-Oil is not a product with which they compete in the marketplace. If the link between crude-oil and oil products were to change significantly, a buyer who linked this price to crude-oil might find he could no longer compete in the market place.

However, with the successful use of the ICP oil pricing mechanism in Indonesia, it has been suggested that gas prices could be set at parity with the Indonesian Crude Reference Price (ICRP).

Oil Products - Rotterdam Market

There are two markets for oil products. The Singapore market is essentially a wholesale market in which the oil companies trade products between themselves. The gas sellers often favor the use of Singapore price series for Gas-Oil and Medium Fuel-Oil because these are a good indicator of the market value of gas and because Singapore prices are unregulated and free of government controls. For gas-fired power stations the buyers may feel Singapore Medium Fuel Oil is a reasonable proxy for the alternative fuel for power generation, although it is not quite good as the Inland price of Fuel-Oil, as it is not the price at which fuel oil is actually sold in the country where the power project is located.

Oil Products - Inland Markets

Prices in inland markets mean the prices at which oil products are sold to end users in countries such as Australia, Indonesia and Malaysia. The price of Fuel Oil in such markets is one of the most popular escalators in gas pricing clauses. From the power generators standpoint in gas pricing will keep their project competitive. The sellers also like oil products because they are an accurate reflection of the market value of their gas and historically these prices are closely related to those of crude-oil. However, in some areas they have reservations about these prices or subsidize them. The next result is that Inland prices for oil products can sometimes be below the equivalent Singapore price and hence form a poorer prospect for price escalation.

Fixed Element

There is no reason why gas prices have to be fully escalated and indeed it is quite common in some South East Asian countries to have a significant element of a gas price which does not escalate

LNG

In an LNG contract this is done through the use of the constant element, that is a part of the price expressed in \$/MMBTU which does not escalate with crude-oil prices. The attractions from the buyers point of view is that at a time of rising oil prices this element will moderate the growth in LNG prices. From the Seller's point of view the constant means that when oil prices fall this is not fully reflected in the LNG project. This slightly reduces the risk in involving in financing billion dollar projects linked to volatile oil projects.

Gas

In the past sellers of gas have always resisted the use of fixed elements in gas contract pricing. It not only notably reduces the price achieved for the sale of their gas over the lifetime of the contract. Many gas contracts in South East Asia are for sale to Power Generation. Governments who are concerned to moderate the growth in the price of electricity may wish to impose restrictions on the price escalation of the gas supply for the power stations concerned. They may feel that if a fixed, or partially fixed price provides the gas producer with an adequate return on his investment, there is no need for 100% escalation - this has been the case thus far in Indonesia.

Inflation

Use of inflation indices is quite common in Australia, although it has rarely, if ever, been used as an escalation mechanism in Gas or LNG contracts in South East Asia. Even in South East Asia there is no reason why contracts could not be escalated with some measure of general inflation in the costs of goods and services. For example the overall OECD inflation rate. In the current low oil price environment this could provide some welcome stability in LNG prices for the sellers. This could significantly increase the financial volatility of these projects and make it easier to raise finance.

Variants On The Basic Gas Price Formula

Any gas price formula, no matter how carefully constructed, is going to pose risks for both buyer and seller in the long-term. Market conditions can vary substantially over ten or fifteen years and a formula which works well initially could pose great difficulties later on, particularly for Buyers. For this reason, it is often desirable to have a means of modifying pricing formulae over time.

Price-Break Clauses

The most common of these pricing variants is the Price-Break Clause. This is extremely common in most parts of Western Europe. The pricing clauses contain a normal pricing formula but this is subject to review at regular intervals, say, every three or five years after the start of deliveries. Review is open either to buyers or sellers who can demonstrate that the price is longer appropriate in the light of current market conditions. The key concept involved is defining the set of circumstances under which prices can be changed. In the event that the parties are unable to agree on the new price, then the dispute will be referred to an independent expert or arbitrator who will determine the new price or formula.

For a number of Western European gas utilities, the definition and use of a Price-Break clause is relatively easy. They tend to use a net-back approach to determine the price they pay for gas. This starts with the price obtainable from end-users, deducts their 'non-gas' costs and a fixed profit margin and the balance goes to the gas producer. However, if it is not accepted that the price risk basically remains with the producer, then the price break approach becomes considerably more complex.

This could in principle be extended to LNG Contracts or to gas sale price of electricity and deducting the costs of generation and distribution, yielded a significantly different net back value to that at the time the contract was agreed, with the result that the gas/LNG price could be adjusted up or down as necessary.

One word of caution. If you are dealing with a power generation project with a high debt-equity ratio you may find it difficult to raise finance if your gas contract contains a price review clause. Banks tend to be very nervous about contract provisions which can fundamentally alter the economics of projects they have to finance.

Advantages and Disadvantages of Price-Break Clauses

The great advantage of this type of contract provision is that it does allow the parties to adjust the pricing provisions over time and protects both sides against the risk of losing money in the long-term plan. The disadvantage are that these clauses are extremely complex and difficult to draft and negotiate and may noticeably complicate the negotiation process. If they are invoked by one of the parties, then they can lead to prolonged and extensive disputes, and may require a great deal of senior management time on both sides to resolve.

Floor and Ceiling Prices

If a seller invests billions of dollars in an LNG plant and a fleet of LNG carriers then with an LNG price largely linked to the price of crude-oil then its investment is very vulnerable to a downturn in the crude-oil market. Many new LNG projects would not be viable in the event of a prolonged period of low oil prices. Obviously some protection is provided by the constant element but more help may be needed. One simple way of doing this is to include a provision for a floor in the pricing provisions. This simply states that if the crude-oil price goes below the floor price in \$/barrel at any time, the floor price is used against. This obviously has enormous advantages from the seller's point of view as it guarantees a certain minimum level of income.

This “floor” concept has been proposed by at least one gas supplier in Indonesia, but has yet to be accepted by the GOI.

The Buyer has the opposite problem. If the oil price rises dramatically the electricity generated from gas may become uneconomic compared with electricity from other sources such as coal or nuclear power. The solution lies in a price ceiling which is the opposite of a floor. If the crude-oil price rises above the ceiling price in \$/barrel then the actual price is ignored and the ceiling crude-oil value is used instead for the purpose of calculating the gas price.

Hardship Clauses

A Hardship Clause allows either the buyer or the sellers to require the other party to re-negotiate the price, if they can demonstrate that they are suffering hardship as a result of the existing price level. It is generally wise to define what is meant by hardship for both sides. If the Parties are unable to agree on whether hardship exists at some point in the future, then the contract will normally provide for the dispute to be resolved by an independent expert. A Hardship Clause bears many similarities to a price-break clause although it does not operate on a regular basis and it has broadly the same advantages and disadvantages.

An example could be where a price was agreed upon as a result of capital investment and/or timing estimates that were subsequently exceeded. These then changed the economics of the project such that the venture may not be profitable at the originally-agreed gas sales price.

TAXATION

Taxation in its various forms is often overlooked, but it is likely to become a critical issue in the near future, and it is likely that handling of the taxation situation could mean the difference between a successful project and one that is not.

Project Companies are subject to generally applicable Indonesian taxes. These include income taxes, value added taxes, property taxes and various regional and local taxes. The Power Purchase Agreement provides for a tariff adjustment for changes in Indonesian taxes applicable on the signing date of the Power Purchase Agreement. The Project Company is however eligible for some import duty and import value added tax relief under Presidential Decree 37 as implemented by the Decree of the Minister Finance No. 128/KMK.00/1993 dated February 10, 1993 which provides for exemption of import duties and additional import duties, deference of value added tax subject to the fulfillment of conditions as elaborated in the decree. A brief discussion follows.

Income Tax

General

- Basic Income tax is 30%, although lower rates are imposed for the first Rp 50 million profit
- Taxable profit is calculated with accounting principles (Indonesian GAAP), except where the tax law requires special treatment
- Loss carry forward is limited to 5 years from time of Incurrence
- Tax is imposed on a legal entity basis, and grouping of losses for commonly-owned entities will be difficult, if not impossible

Major Expenditure Items

- Development costs in the pre-incorporation phase (i.e. prior to PPA signing) will only be deductible if it is clear that the expense directly relates to the project
- Pre-operating costs should be expensed as they are incurred
- Interest during construction can be capitalized for accounting and tax purposes on an accruals basis
- Depreciation of fixed assets follows the existing tax laws
 - Main power plant items are categorized as “Group 3”
 - Reducing balance: 12.5% per annum
 - Straight Line : 6.25% per annum
 - The chosen method should be applied consistently from the beginning
 - Buildings depreciated at 10% straight line
 - Land is not depreciable for tax purposes
 - Depreciation of assets starts in the year of completion (“in-service” year)

Incentives in Priority Locations

- Case-by-case basis (e.g. Natuna project)

- Accelerated depreciation
- Loss carried forward extended to 10 years
- Reduced withholding tax on dividends

Value Added Tax (VAT)

- Electricity sales are exempt from VAT
- VAT rate is 10%
- Most purchases of goods and services will be imposed with VAT
- VAT incurred on expenditure is a cost to the project and is not recoverable. This is because electricity is VAT exempt
- The VAT amount is accounted for as part of the related expenditure (e.g. VAT on the EPC contract will be capitalized in fixed assets)
- Coal is subject to VAT, whilst natural gas is exempt from VAT
- Other items that are not subject to VAT include interest, insurance, employee earnings, etc.
- VAT is self assessed on services by non-residents (e.g. foreign legal advisors, offshore engineering). In other words, it is advisable to pay the VAT at the time, as penalties are harsh.

Import Duty and Taxes

- Import of initial equipment for IPP projects is exempt from import duties under the auspices of Presidential Decree 37/1992
- The decree also grants total relief from VAT on the designated equipment. The status of this VAT relief is currently in doubt, as senior tax officials have stated that the VAT relief is no longer available for new power projects
- Ongoing imports of materials, spares and equipment will be subject to duties of 5-20%, plus 10% VAT
- Imports are also subject to 2.5% income tax prepayment. Designated imported equipment is granted exemption. The income tax paid can be offset against the year end tax payable on the profits for the year. If prepaid tax exceeds the year end tax liability, there are often difficulties in recovering the excess payment

Withholding Taxes

Withholding taxes are an emotional topic amongst those who have not budgeted for them, and a great deal of planning is needed in structuring the project company, subsidiaries and parents for taxation optimization.

Interest

- Domestic banks/leasing - 0%
- Foreign commercial banks - 20% (reduced by tax treaties)
- Export Credit Agencies, etc. - 0%

Dividends

- Domestic company - 0% (dividend is also exempt income)
- Foreign company - 20% (10-15% with tax treaties)

Services

- Domestic EPC contractor - 1.5%
- Domestic advisors/engineers/consultants - 6%

The following table indicates existing tax agreements between various countries and Indonesia.

Country	Dividend	Royalty	Interest
Australia	15%	15%,10%	10%
Austria	15,10	10	10
Belgium	15	10	15,10
Bulgaria	15	10	10
Canada	15	15	15
Denmark	20,10	15	10
Finland	15,10	15,10	10
France	15,10	10	15,10
Germany	15,10	15,10,7.5	10
Hungary	15	15	15
India	15,10	15	10
Italy	15,10	15,10	10
Japan	15,10	10	10
Korea	15,10	15	10
Luxembourg	15,10	12.5,10	10
Malaysia	15	15	15
Netherlands	15,10	10	10
New Zealand	15	15	10
Norway	15	15,10	10
Pakistan	15,10	15	15
Philippines	20,15	15	15,10
Poland	15,10	15	10
Singapore	15,10	15	10
Sri Lanka	15	15	15
Sweden	15,10	15,10	10
Switzerland	15,10	12.5,5	10
Thailand	15	15,10	15
Tunisia	12	15	12
United Kingdom	15,10	15,10	10
United States	15	15,10	15

Source: Coopers & Lybrand, 10/94

Crucial Taxation Issues

Development Phase (pre-PPA Signing)

Developers of power projects will incur significant pre-incorporation expenditure on external experts to formulate, develop and refine plans. The expenditure will be borne ultimately by the project company.

- Tax officials can question the deductibility of such expenditure unless care is taken to adopt appropriate contractual and charging arrangements
- Tax officials can expect the project company to show that Indonesian VAT and withholding tax obligations have been complied with. Preparation is necessary so that arrangements do not lead to unnecessary VAT withholding tax costs.

Financing Costs

Financing costs (loans or bonds) are likely to include advisory fees, commitment fees, agency fees, trustee fees, interest, and other items such as interest swap costs. Most overseas financial institutions will expect the Indonesian company to bear the cost of any withholding taxes and VAT (if applicable). Withholding taxes can be a significant factor in financing costs, and use of suitable double taxation treaty reliefs or other measures can reduce costs.

EPC Structure

A turnkey contract potentially has adverse tax consequences:

- VAT reliefs on imported equipment may be jeopardized
- Withholding taxes between contractor, sub-contractor, etc. leads to a “cascade” effect, as one portion of the work could be taxed several times.
- A large part of the expenditure is for work done overseas by foreign suppliers. Turnkey type arrangements can make it difficult to protect this offshore work from unnecessary Indonesian taxes

Operation and Maintenance Structure

Commercially, the O & M responsibility is placed with an external entity. Taxwise, VAT has the undesirable feature of having an external O & M contractor. VAT, which is irrecoverable, applies at 10% on the O & M charges. The VAT cost could be reduced if the operating personnel can be employed by the owning company.

Repatriation of Trapped Cash

Trapped cash arises as cash flow will usually be higher than project profits (as a result of depreciation). Whilst part of these funds are necessary to repay loans, another part represents funds necessary to repay equity. The company can only remit dividends up to the level of profit, and funds available in excess of this cannot be directly distributed as a dividend. Shareholder subordinated loans are commonly used as a form of pseudo-equity, which is repayable, as Indonesian corporate law does not generally permit redeemable shares.

FINANCING

A relatively simple definition of Project Finance could be “the financing of a particular asset or facility with little or no recourse for repayment apart from the earnings from and other proceeds (including realization process) of, such asset or facility”. As project financing is a subject for a lot of eloquent discourse, we have chosen not to discuss it at any length in this paper. However, we have included a “checklist” for those of us without a financial background.

IPP Project Financing Closing Checklist

Corporate Documents

- Ownership of Project Companies
 - Articles of Association or Incorporation
 - Certified By-Laws
 - Certified Corporate Resolutions
 - Incumbency certification
 - Good-Standing and Tax Certificate
 - parent-subsiary agreement(s)

- Equity contribution agreement/agreement with lenders including obligations to invest equity into project companies under specified circumstances.

- Amount and timing of, and valuation of non-cash, contributions

- Parent guarantees and indemnities of project company funding obligations
 - Completion funding
 - Post-completion recourse funding

- Guarantees/agreements with lenders related to selected elements of performance by SPVs and affiliated suppliers
 - Guarantees of performance by suppliers (e.g., fuel supplies)
 - Guarantee of performance by contractors (e.g., completion in accord with plans and specifications)
 - Guarantee of performance by equipment suppliers (e.g., warranties)

Joint Venture Documents

- Partnership, etc., agreement among Project Companies.
 - Control issues
 - Equity contributions: type of contribution (cash, equipment, expertise), timing and valuation of non-cash contributions.
 - Investment exits (buy-out in distress or in dispute; dragalong; tagalong)
 - Day-to day management
 - Future funding obligations for overruns and unexpected contingencies
 - Cash distributions
 - Allocation of tax benefits
- Performance and limited recourse agreement(s) with lenders
 - Obligation to complete and/or repay
 - Performance deadlines and project milestones
 - Definition of project completion and recourse termination
 - Post-completion recourse (e.g., "claw-back" of prior equity distributions)

Agreements Entered into by IPP Project Company

With the Electric Utility

- Power Purchase Agreement
 - Payment structure
 - Incentive structure for capacity availability
 - Heat rate issues
 - Capacity payments, energy payments and obligations to take-and-pay or take-or-pay
 - Allocation of risk of non-performance
 - Payment and/or performance risk for force majeure events
 - Allowances for scheduled and non-scheduled maintenance and outages
 - Risk of non-performance by suppliers
 - Allocation of regulatory risk
 - Regulatory-out for inability of electric utility to fully recover costs
 - Performance criteria
 - Project milestones, completion date and criteria, and financial incentives/penalties
 - Penalties for availability shortcomings
 - Baseload vs. dispatchable or peaking capacity
 - Termination events
 - Purchase/control rights by electric utility

- Third-party electric sales
- Interconnect, transmission and similar agreements
 - Specifications
 - Cost responsibility

With the Government

- Government “comfort” letter
- Land access agreements: sale, lease or easement
 - Indemnity issues
 - Adequacy and duration of access
 - Responsibility for compliance with environmental laws
- Support services : water, etc.
 - Responsibility for permits
 - Responsibility for processing inputs to specifications

With Suppliers, Vendors, etc.

- Equipment suppliers
 - Purchase agreements
 - Performance guarantees and warranties
 - Maintenance obligations
- Fuel
 - Gas or other fuel sales/purchase agreements
 - Pertamina Gas Supply Agreement (Between supplier and Pertamina)
 - Pricing formula and tie to power purchase agreement (i.e., "match" project inputs and outputs)
 - Term of agreement; spot market risk vs. long-term contractual inflexibility
 - Force majeure “excuses”
 - Take-or-pay liability
 - Full vs. partial requirements
 - Rights of buyer to self-protection
 - Fuel transportation/handling arrangements
 - Agreed Operating Procedures
- Construction agreement
 - Performance specifications
 - Project milestones

- Liquidated or other damages
- Relationship to damages under power purchase agreement
- Warranties
- Obligation to cure vs. damages
- Liquidated damages vs. penalty
- Change Orders

- Operation and Maintenance agreement
 - Scope of Tasks
 - Tasks requiring Project Company consent
 - Performance criteria (e.g., incentivized compensation for maximized project performance)
 - Term of agreement
 - Damages for failure to perform
 - Replacement of operator

- Insurance coverage

With Lenders

- Construction loan
 - Project milestones
 - Recourse events (failure to complete or perform)
 - "In accordance with plans and specifications"

- Term financing
 - Term sheet
 - Completion events
 - Amortization requirements
 - Reserve requirements (project cash "cascade" and "claw-back" provisions)
 - Events of default and lender remedies
 - Recourse events

- Assignments of key documents
 - Lender security interests
 - Regulatory impact of foreclosure

Miscellaneous Closing Documents

- Independent Engineer's Report
- Independent Engineer's Certificate
- Insurance Policies or Certificate
- Insurance Advisor's Certificate
- Title Insurance Policies
 - Owner's Policies
 - Lender's Policies
- Environmental Consultant's Report
- Fuel Advisor's Report
- Operating Budget
- Authority Limitations
- Application for First Advance
- Borrower's Certificate re Representations/Defaults
- Borrower/Parent Financial Statements

Legal Opinions

- Borrower's Special Counsel (corporate standing and procedures; enforceability, etc.)
- Borrower's Local Counsel (creation, perfection and priority of liens and security interest; environmental and land use compliance)
- Third Party Counsel (enforceability)
- Lender's Counsel

BIBLIOGRAPHY

Coopers & Lybrand, Unpublished Report, Jakarta, September 1994

Directorate of Electricity and Energy Development, *Plan for Private Power*, Jakarta, 1993

Forrester, J.P. *Developing the Project I - Finance, Contracts and Legal Issues*, Power-Gen Asia '94, Hong Kong, 1994

Jamin, Ermansyah, *Indonesia's Electricity Sector - Development Programs and Private Participation*, Jakarta, 1995

Situmeang, H.H. and Sjahroel Samin, *Gas Role in Electric Power Development: PLN's Perspective*, Gas Pricing Summit '95, Jakarta, April, 1995
