PN-ABD-617

63407

Report No. 89-04

A Report of the

Office of Energy
Bureau For Science and Technology
United States Agency for International Development

SUMMARY REPORT OF THE PHILIPPINE SEMINAR AND ROUNDTABLE ON PRIVATE POWER GENERATION THROUGH BUILD-OPERATE-TRANSFER (BOT)

Manila, Philippines
October 5-6, 1988

Sponsored by

Office of Energy Affairs of the Philippines
Philippine Chamber of Commerce and Industry
USAID/Manila - Technology Transfer Energy Management Project -
A.I.D. Office of Energy

Prepared by:

Bechtel National, Inc.
1601 North Kent Street, Suite 914
Arlington, Virginia 22209, U.S.A.

Conventional Energy Technical Assistance Project
Contract No. LAC-5724-C-00-5126-00

May 1989

CONTENTS

1. BACKGROUND AND OBJECTIVES

2. SUMMARY OF SEMINAR PRESENTATIONS

2.1 Welcome and Keynote Addresses

Tristan Calasanz
Hon. Catalino S. Macaraig, Jr.
Malcolm Butler
Victor Lim

2.2 Presentations on the BOT Concept

Alberto J. Sabadell
Ernest Y. Lam
Donald Vial
James K. A. Harral
William E. Stevenson
Jerry W. Vargo
William Dykes

2.3 Closing Remarks

Wenceslao R. dela Paz

3. SUMMARY OF ROUNDTABLE DISCUSSIONS

4. CONCLUSIONS AND RECOMMENDATIONS

LIST OF EXHIBITS

1. Seminar Agenda

2. Seminar Attendees

3. Roundtable Attendees

4. Selected Bibliography Relating to Private Power in the Philippines

1. BACKGROUND AND OBJECTIVES

The Government of the Philippines is facing a serious power shortage problem, particularly in Luzon. This problem has been precipitated largely by the decision to mothball the 620 MW nuclear power station, cutting deeply into the National Power Corporation's (NPC) ability to met load demand. This problem is further aggravated by two other key factors:

- The Philippines is saddled with a heavy national debt burden of over $28 billion, compromising its ability to provide capital infusion into NPC to add new generation capacity. NPC forecasts new capital requirements of about $11 billion for the next ten years.

- The economic resurgence climbed to 7.5% in 1988, causing a corresponding increase in electric load demand of at least 8% per year. The Asian Development Bank estimated that Luzon alone will require an additional 3773 MW of new power plants by the year 2000, costing $5.3 billion.

NPC has been unable to add new capacity in the last two years and estimated that publicly funded base loaded power plant may take 6 to 7 years to construct even if funds are available.

While the economic surge is fueled by increased consumer spending, to sustain economic growth and reverse the trade imbalance, the Philippines needs to ensure infrastructure support to industries engaged in production of exportable goods. This is essential to attract foreign investment needed to vitalize such industries in order to increase foreign exchange earnings. The power shortage is perceived by many leading industrialists as a serious constraint to such industrial growth and inflow of foreign investment.

Recognizing that energy shortfalls are causing a serious constraint to development in over half of A.I.D.-assisted countries, the U.S. Congress requested A.I.D. to report on the magnitude of the power crisis, its implications for future economic and social development, and the potential for U.S. technologies and services to address this problem. The Congressional request also asked that A.I.D. assess appropriate incentives for private sector participation.

The energy shortage situation in the Philippines, in particular, has attracted the attention of A.I.D. Despite heavy borrowing to finance public power projects, a substantial shortfall in power supply will occur and the government must rely on the active participation by the private sector and foreign investors to construct new power plants.

President Aquino issued Executive Order 215 in July 1987, legalizing private power generation and the NPC was mandated to issue private power guidelines and rate structures. While private power is attractive in concept and is badly needed by NPC, international experience in its implementation is very limited and many important issues are still subject to debate and clarification in the Philippines. The private sector and potential foreign investors are adopting a wait-and-see attitude while the Philippine Government is struggling with this problem.

The seminar idea was conceived in July 1988 in a discussion between the A.I.D. Office of Energy and the Philippine Office of Energy Affairs as a means to help the Government of the Philippines as well as the private sector to understand the complex issues relating to the implementation of private power projects using the Build-Operate-Transfer (BOT) concept. In particular, the seminar was to assist in refining NPC's draft private power guidelines.

The BOT seminar was executed in October under the joint sponsorship of the Office of Energy - A.I.D., the Office of Energy Affairs, the Philippine Chamber of Commerce and Industry, and the Technology Transfer Energy Management Project of USAID/Manila. The Conventional Energy Technical Assistance (CETA) project of the Office of Energy provided the technical support in furnishing a U.S. "resource team" of specialists listed in the Seminar Agenda shown in Exhibit 1.

The seminar was conducted in two days, October 5-6, 1988, in Manila. The first day was open to the public. The second day was by invitation only and limited to key lawmakers, government officials and private business leaders who had a direct interest and role in shaping the private power policy of the Government. The open seminar on October 5 was attended by over 200 participants consisting of government officials and business leaders. A delegation from PLN, the National Utility Company of Indonesia, also attended. This high attendance reflects a strong interest and the timeliness of the transfer of U.S. private power experience to the Philippines at a crucial point when debate on a national policy was underway. The private sector had also become keenly aware that a reliable supply of electricity was needed to ensure the continued growth of the local economy.

Section 2 of this report summarizes the October 5 open seminar. The Seminar agenda and the list of attendees are given in Exhibits 1 and 2. Section 3 summarizes the October 6 roundtable discussions, with the attendees listed in Exhibit 3. Exhibit 4 lists a number of the more important documents relating to the subject of private power in the Philippines.

2. SUMMARY OF SEMINAR PRESENTATIONS

The Seminar was organized in two parts. The first part, summarized in Section 2.1, consists of welcome and keynote addresses. The second part, summarized in Section 2.2, consists of presentations on the Build-Operate-Transfer (BOT) private power concept by the U.S. private power resource team. These addresses and presentations are summarized in this section.

2.1 Welcome and Keynote Addresses

Mr. Tristan Calasanz, Chairman of the Seminar, delivered a welcoming address to the audience of over 200 participants. Mr. Calasanz was the Chairman of the Energy Committee of the Philippine Chamber of Commerce and Industry. His address was followed by three keynote addresses.

The Honorable Catalino S. Macaraig, Jr., Executive Secretary to President Aquino, the highest ranking energy official in the Philippines, informed the audience that in structuring a comprehensive energy program for 1988-92, the Republic of the Philippines took a bold step in defining the policy of inviting private capital into the construction and operation of energy projects. More specifically, the issuance of Executive Order 215 was designed to facilitate the re-entry of the private sector into the power business line.

Mr. Malcolm Butler, Mission Director of USAID/Manila, summarized USAID's various energy activities in the Philippines, pointed out the rapidly growing energy demand in A.I.D.-assisted countries, and emphasized the strong correlation between energy supply and economic growth. While private sector involvement is essential to help meet the power demand, various project development options including the attractive BOT concept must be understood and explored. Each country must decide on what mix of private and public sector participation is best. Mr. Butler assured the audience that USAID will continue to play a strong role in helping to mobilize and direct private sector resources and development. This is consistent with USAID's overall assistance strategy in the Philippines to encourage broadly-based growth in productive employment. However, Mr. Butler also cautioned them that USAID would not be able to serve as a source of capital support for the power sector. Nevertheless, he would continue to support policy examination, workshops, conferences and studies to determine the macroeconomic advantages of independent power. He would also continue to encourage contacts between government and the private sector, including the U.S. private sector, to improve the country's power generation capabilities.

Mr. Victor Lim, President of the Philippine Chamber of Commerce and Industry, informed the audience the concerns of the industrial and commercial sectors on energy supply, as reflected in two recent surveys of their members. One concern is the high rate they pay for electricity, causing their export product to be less competitive in the world market. The second concern is the reliability of power supply. The private sector realizes that the National Power Corporation has very limited resources to meet the very high increases in

power demand, and are interested in exploring the possibilities of the BOT concept to help solve this problem. He informed the audience that large corporations in the Philippines are actively looking into the possibility of generating their own power to satisfy their internal requirements, and to make excess generation available to the national grid.

2.2 Presentations on the BOT Concept

Dr. Alberto J. Sabadell, Deputy Director, Office of Energy, A.I.D. kicked off the second portion of the seminar by giving a brief slide presentation to highlight the report that A.I.D. recently prepared for the U.S. Congress on the power shortage problem in developing countries. These countries, while having 70% of the world's population, had only 20% of the total installed capacity, according to 1984 figures. However, the same countries are experiencing high demand growth. The inability to keep pace with this growth is leading to serious problems, particularly in the industrial sector, causing significant losses in GDP. Even assuming a modest economic growth scenario, the report projects that the capital requirements to meet power demand will be in the order of $2.6 trillion in the next twenty years. To help meet this demand, private sector participation must be sought and the promise of the BOT approach must be examined.

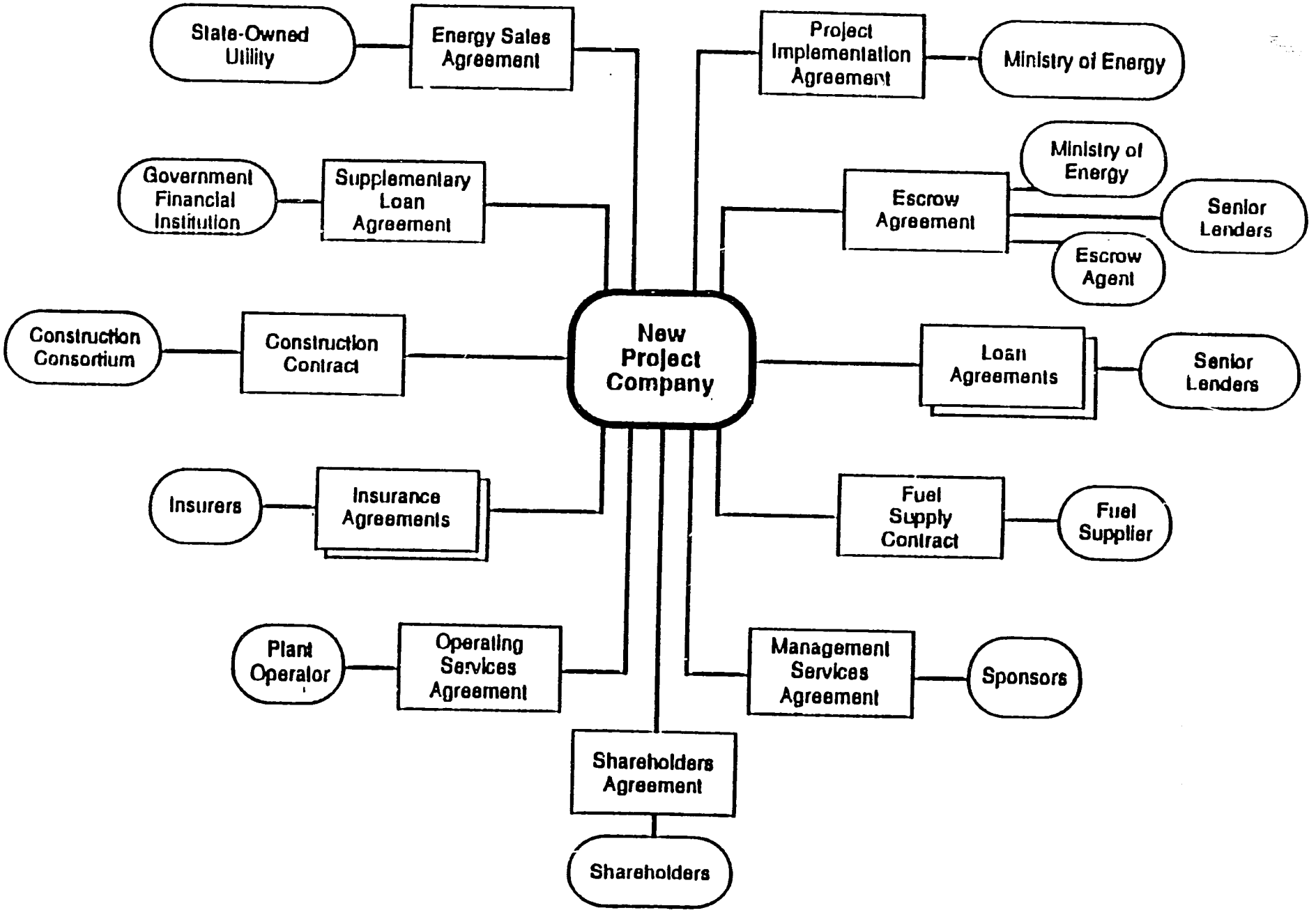
Dr. Ernest Y. Lam, of Bechtel National, Inc., the Resource Team Leader and Technical Director of the Conventional Energy Technical Assistance Project for A.I.D.'s Office of Energy, introduced the team members and gave a brief paper to describe the basic elements of the BOT concept. Referring to a typical BOT project structure, as shown in Figure 1, Dr. Lam delineated and expounded on the various contractual relationships that are required to form the commercial structure. He also pointed out that structuring such a venture involves an intricate process of allocating project responsibilities, as well as divvying up the project risks and rewards among the participants in an equitable manner. He informed the audience that the goal of the seminar was to help them understand the issues relating to the BOT approach, and the cost-benefit trade-offs, with the hope that the legal and regulatory framework structuring processes that were taking place in the Philippines would succeed in coaxing out the full potential of the BOT concept.

"INDEPENDENT POWER GENERATION AND ELECTRICITY MARKET STRUCTURE -- A CALIFORNIA PERSPECTIVE"
Mr. Donald Vial
Commissioner, California Public Utilities Commission

California was over 60% dependent on oil and gas when the oil price shock hit in 1973. The utilities had been actively developing coal and nuclear plants, but these were becoming more and more difficult to site and expensive to build. The California Public Utilities Commission began to experiment with basing electricity rates on marginal costs to provide the right signals to consumers to economize on energy, to encourage investment in energy conservation programs, and also ordered one of the utilities to buy power from independent power producers at the utility's marginal cost.

Figure 1

Typical BOT Power Project Contractual Structure



In 1978, the U.S. Congress passed the Public Utility Regulatory Policy Act (PURPA), which essentially required utilities to purchase power from any *"Qualifying Facility," or QF*, using certain desirable technologies. This was aimed at reducing dependence on foreign oil.

The critical issue was on what terms would the utilities buy this power? To assure that consumers would be no worse off by using QF power, utilities were required to pay QFs no more than a utility's *avoided cost*. State utility commissions were directed to design avoided cost methodologies. Complementing this program was a set of fiscal incentives for the new industry in the form of special energy tax incentives provided at both the Federal and State levels.

At first, QFs and utilities individually negotiated contracts, usually a time-consuming process. The utilities were also hesitant to buy power from QFs. The Commission did its best to monitor these negotiations. This approach was not destined to be very successful. The Commission finally resolved the impasse by developing a set of standardized contracts called standard offers, or SOs. Utilities were required to provide these contracts to prospective QFs on the avoided cost basis.

The Commission developed the first three standard offers, referred to as SO #1, 2 and 3 but independent producers felt that these offers did not address adequately their concerns.

SO #1, which pays prices for capacity and energy based on utilities' actual shortrun avoided cost with annual and quarterly adjustments for these two prices respectively. However, independent producers argued that these two offers were not sufficient because of the uncertainty in the utility's short-run cost. SO #2 was developed, paying short-run energy cost, but fixing capacity payments for as long as 30 years. But QFs argued that long term security was needed for both energy and capacity payments. SO #3 was issued with similar terms as SO #1, and was again deemed inadequate.

To expedite the development of a long-term offer, the Commission asked the utilities and QF developers to negotiate with the Commission staff to agree on a set of long-term prices. This resulted in SO #4. This received an enormous response. By 1982, California's utilities had signed contracts for 1,000 MW of independent power, and by 1985, that had risen to 15,000 MW. It is projected that by 1990, independent power will account for 10% of the capacity, and will meet the State's load growth through the 1990s.

The California program was successful partly because of factors inherent in California's economy, but a large part was due to three provisions of the State's program. First, the presence of standardized contracts reduced the uncertainty and negotiation barriers. The second factor helping to draw out a relatively large amount of QF development was the decision to pay for both energy and capacity. Third, California offered long-term contracts, allowing QFs to finance their projects.

California's program demonstrates that, (1) QFs can in fact provide reliable power to an integrated utility system, meeting the system's technical standards, (2) QFs can be relied upon to provide firm capacity, (3) QFs can provide significant electricity resources without adding to the financing burden of utilities, (4) an independent power program can tap small dispersed and diversified technologies for the advantages they offer, and (5) QFs can add flexibility to a system.

Along with the success came also a number of major problems. Integrating QFs into a utility system requires careful planning. The job of the regulator became more complicated.

By June 1988, we became concerned over the enormous response to our Standard Offers. The number of plants that signed up were more than needed to meet our target. They were beginning to lower the avoided capacity price. At the same time, the avoided energy price was also dropping due to the lowering of oil and gas prices. In short, the success of the program was tempered by the fact that we did not predict the future accurately, and therefore, may be paying too much for at least some of the QF power. One solution to avoid this situation in the future is to limit the total number of contracted megawatts to the estimated need for capacity. Another solution would be to allow the utility to conduct a price auction when the response exceeds the need.

Finally, we would like to caution that as independent producers grow to be a major part of the utility system, we have to assure that they "fit" together to allow the utility to dispatch its system to meet load, to meet local needs for voltage support, and to assure that the system can recover from emergencies. The Commission is currently wrestling to fine tune the contractual structure to accommodate these special features. We would also like to emphasize that our whole program is aimed at enhancing the viability of the utility transmission and distribution system, maintaining the focus on the integrated utility to maintain the electrical infrastructure. We are using a marketplace approach only in a limited way, in order to maintain the reliability of the electrical system, which is crucial for economic and social development.

In looking broadly at the structure of the Philippines' electricity system, the U.S. experience may have limited application. The objectives of introducing private power, for example, to achieve more rapid expansion of energy supply for accelerated economic growth may or may not embrace the concept of allowing cogenerators or other independent producers to sell directly to end users.

In the end, the success of a set of rules to promote private power development will be determined by the clarity with which the goals and objectives of such development are embraced and refined as the policy is implemented. As in California's experience, mistakes inevitably will be made. What is important is to have the capacity to correct them before they get out of hand.

"A UTILITY PERSPECTIVE IN PURCHASING POWER FROM THIRD PARTY PROJECTS"

Mr. James K. A. Harral
Assistant to the Vice President
Pacific Gas and Electric Company

Pacific Gas and Electric Company (PG&E) is the largest combined electric and gas utility in the U.S. with an installed capacity of nearly 16,000 MW. In addition to this capacity, in 1987, we purchased 37% of its power from other sources, including 3,013 MW from self generation and "Qualifying Facilities" or QFs.

For a U.S. utility, the benefits of purchasing power from third parties include the following:

- Expanded capital resource base to develop capital intensive projects.
- Freeing utility revenues to be used for the care and maintenance of the electric system.
- An impetus to develop new technologies.
- Increased diversity, improving stability of supply.
- Competition among suppliers leading to more economic pricing.
- A spur for utilities to minimize their own construction and operation cost.
- A shifting of some cost and risk burden from over-extended utilities to new participants.

These potential benefits are well recognized in the Philippines, as exhibited in the parallels between PURPA and the draft Rules and Regulations to Implement Executive Order 215 prepared by the National Power Corporation (NPC).

PURPA's purpose was to boost the development of alternative sources of supply. It succeeded well in doing so. On the other hand, there has been a shortcoming of PURPA as implementrd in California which stemmed from the inaccuracies in determining the price PG &E has had to pay for QF supplied electricity. However, the Federal Energy Regulatory Commission (FERC) has proposed rules to allow competitive bidding of supplies to avoid this shortcoming and the California CPUC has addressed and largely remedied the problem.

PG&E's experience indicates that the general direction pursued by Executive Order 215, to broaden the spectrum of potential supply options by encouraging the participation of private developers in the generation of electricity, is correct. This endorsement, however, is not without certain cautions.

- PURPA required that PG&E purchase capacity from QFs. This requirement has caused at least two problems. First, this required purchase, without regard to need led to an excess of capacity, wasting capital resources and adding to consumers' costs. Second, the avoided cost was not reviewed frequently enough to match the actual cost of other supply alternatives available to PG&E.

- If a utility is required to wheel power from a private producer to a customer that the utility would otherwise serve, this will cause the bypass of utility generation to the economic detriment of the utility's other customers.

- To the extent a utility provides wheeling, it must be voluntary and consistent with the capacity constraints of the utility's transmission system.

- At PG&E we have concluded that a bidding system for all or part of new capacity requirements is the most economically efficient and fair means to obtain such power.

- The utility must retain the right to determine what it believes is the most desirable mix of utility construction of generation and purchased power. system frequency, and the reactive power component.

The cautions are not intended to discourage NPC from relying upon private power, they simply argue for a careful implementation of Executive Order 215.

"THE TURKISH BOT POWER PROJECT EXPERIENCE"
Mr. William E. Stevenson
Vice President and Manager
Bechtel Financing Services, Inc.

BOT project development is a costly and risky enterprise to embark upon, both for host governments and for prospective private sponsors, and the decision to do so depends on three conditions. First, the host government must be firmly committed to putting the responsibility for the creation and operation of new generating capacity into the hands of the private sector. Second, the host government must understand private sector incentive mechanisms, and be realistic in its risk-reward sharing expectations. And third, the government must be seen by the project sponsors and lenders to have a credible commitment to concluding a deal.

In September 1984, Turkey requested Bechtel to conduct a techno-economic-commercial prefeasibility study for the development of a 600-1,000 MW power plant to be financed by a private project company. In April 1985, the study concluded that such a project would be feasible and economically attractive. In May 1985, the Turkish Government requested Bechtel to extend the study, and the effort quickly

evolved into a request for a full commercial proposal. In September 1985, Bechtel submitted a proposal for a $1 billion, 960 MW plant under the BOT structure. The next 18 months were spent in addressing the loan repayment guarantee between the Turkish Government and the U.S. Exim Bank. During that time, the Government was also approached by other proposers offering similar projects on similar terms.

The Government was determined that the project loans be without direct repayment recourse to the Government in the event the project company was unable to earn sufficient revenues to service its loans. The U.S. Exim Bank was equally determined to have the repayment of its very large loan to the Project Company unconditionally guaranteed by the Turkish Government. In January 1987, a compromise was reached.

In March 1987, the Government issued a call for proposals, and a ranking decision was announced in September 1987. Negotiations continued into the first half of 1988 with the Government undertaking a round-robin series of negotiations with the top-ranked four proposing groups, ratcheting the contractual risk-reward relationship in its favor by playing each group off against the others and holding out the prospect of being mandated as the first project to proceed. Finally, in August, 1988, the Government announced its decision to return once again to sole-source negotiation with the original first-ranked group. Whether or not this negotiation will succeed is still an open question at this point.

Here we see that it will have been at least nine years from the time the Turkish Government initiated the BOT investigation process until the first BOT power project comes to full commercial operation.

The process I have just described illustrates the reality when the three major groups of players (government, lenders and project sponsors) sit down and negotiate to agree on hundreds of risk-reward, "what if" mini-decisions that lead up to a deal, especially in a context of competitive pressure, political accountability, intra-Government agency dynamics, personnel changes and rapidly evolving economic conditions.

Specifically, let me address three issues which are important for a Government to consider BOT.

1. Project credit structure. What are the lenders being offered as the security for the servicing of their loans? This is crucial for a large project. Also, for a large BOT project in a B to D rated developing country such as Turkey, financing will absolutely require the participation of the official export credit agencies either as direct lenders or as guarantors of commercial bank loans.

   The U.S. Eximbank was most responsive to the Turkish Government's BOT risk-sharing proposal, and after hundreds of hours of negotiation and 18 months of project development, the project credit was structured with the following features:

- The borrower is the Project Company.
- The Project Company arranges all financing including the provision for funding an escrow account.
- Once the plant starts operating, the Government is committed to pay the Project Company for all available power.
- The power is priced in the currencies of the Company's costs for the period.
- The equity servicing component of the power sales payment is captured by an escrow account.
- The Turkish Treasury puts the full faith and credit of the Republic behind the payment obligations.
- If the Government takes over the privately owned shares before the the end of the BOT term, the project loans become the direct repayment obligation of the Republic.

With this structure, the major advantages and objectives of the BOT concept are preserved and are made achievable.

2. Basic risk-reward principles. The broad agreement between Bechtel and the Turkish Government at the outset of the project study was simple. To attract the substantial equity required for the project -- about $150 million -- required that the Government agree to take responsibility for the risks deemed not to be under the Project Company's control. Those risks that are under the control of the Project Company are allocated in the framework of the BOT contractual structure (See Figure 1) described in Ernie Lam's presentation. With the allocation of risk and associated penalty to each contractual party is also the assignment of reward for upside performance.

3. Development process management. In a BOT project development process, it is critical that the host government be credible in managing the developmental process. This includes establishing a sound policy framework, setting a realistic schedule, assigning clear responsibility to appropriate Government representatives and adhering to a timetable. It also means engaging competent advisors to help make difficult economic, technical and financial decisions. And, finally, credibility means a cooperative spirit of mutual enterprise between the Governments and the selected sponsor group in overcoming the obstacles to reaching financial close.

"PRIVATIZATION WITHIN THE POWER SECTOR - A CONTRACTOR'S VIEW ON DEVELOPMENT AND RISK ISSUES"

Mr. Jerry W. Vargo
Vice President and Director of International
Business Development and Sales
Combustion Engineering

On a traditional international power plant project, the borrower is normally a public company. Loan guarantees are provided by the government. No project assets are required to be secured. The Government takes all the implementation and operating risks. On a BOT project, however, the borrower is a private joint venture, which must seek financing on the merits of the project itself. The venture must assign the assets of the project in order to secure the funding, spreading the risks among the participants.

The structure of the financial arrangement of a BOT project is much more complicated than on a traditional basis, and it takes longer to put such a package together.

With this basic understanding of the major differences between private and conventional approaches, we would like to concentrate on two central issues confronting the developer/investor involved in BOT projects.

1. The development process. It is a complex, time consuming and expensive process for the developer to structure a BOT project (please see the presentations of E. Y. Lam and W. E. Stevenson for a more detailed discussion).

   To date, two basic avenues of approach have been used to develop a BOT project. The first approach involves a group of power plant designers, manufacturers and contractors who associate themselves to undertake the tasks required leading up to a sound financial plan. In this approach, the project developers are typically involved in the complete plant life cycle, from development to plant turnover after the BOT term.

   The second approach involves entrepreneurs who perform or contract out the various project feasibility studies and negotiate principal project agreements directly with the host utility. The project developers then proceed to raise the project debt and equity requirements and negotiate the turnkey construction contract and operation and maintenance contracts. This approach differs from the first in that the contractor is held at arms length and he may or may not have an equity stake in the project. The ultimate success of the project then relies solely on the project company's ability to manage. This approach does however solve the potential conflict of interest existing in the first approach with developer, contractor, project company and operator basically being the same entity during the structuring process.

Regardless of the approach, there are some critical considerations. First, the host utility or government has to provide a clear signal as to its objectives for entering into privatization (e.g. attracting foreign investment, technology transfer, off balance sheet financing, etc.). It should be noted, however, that low cost is not the normal reason for pursuing privatization. Second, there must be a reasonable incentive established for the developer. Finally it is necessary for the client to issue a set of conditions with an attendant milestone schedule forming the basis for proposals which must be met by prospective developers (plant size, number of units, fuel source, plant availability, basis for power pricing, etc.). The importance of this step is that it sets consistent criteria for objective evaluation and selection of a single developer party at a relatively early stage in the project development schedule. This would limit the amount of upfront sunk costs of the various contenders.

2. Risk sharing. There is a tendency for the host government utility to view the private power developer to be on an equal basis to the public utility. However, the practical reality that the private company is confronted with is not compatible with this "fair and equal" treatment concept. The feasibility of the project is constrained by whether it is financeable. For example, from the technical standpoint, the project has to maximize generation of revenue, usually excluding normal utility consideration for new plants such as introduction of new technologies, or the use of lower grade indigenous fuels. Commercial considerations would include the presumption of a base loaded plant to maximize power sales, and pass through arrangement for fuel costs.

It is clear that privatized power projects can be realized internationally, but before the process is entered into, all parties should have a realistic understanding of the principles and commitment to the objectives involved.

"THE BANKERS PERSPECTIVE"
Mr. William Dykes
Managing Director
Citicorp International Limited
Hong Kong

During the past two years, we have seen a considerable amount of interest in private power, especially in the BOT concept. To date, however, the only BOT power plant project that has been completed is the Hopewell 2x350 MW coal fired station located at Shajiao, Guangdong Province, China. The successful conclusion of that project certainly provides a structure worthy of consideration for other projects involving BOT investors.

In applying the BOT experience to the Philippines, the advantages of the concept as well as the security structure likely to be required by commercial bank lenders need to be clearly understood. Given the existing situation in the Philippines, sources of "new money" are severely limited. Sources could be external equity, supplier credit, development banks, debt/equity swaps and relending of existing Philippine external debt.

To alleviate the severe shortage of power in Guangdong, China authorized development of power plants at the Shajiao site in 1984. The local Shenzhen Government formed a joint venture with the Hopewell Group in Hong Kong to develop the Shajiao plant. This Shajiao project was structured as follows. Party A of this joint venture is the Shenzhen Special Economic Power Development Company, an entity of the local Shenzhen Municipal People's Government. Party B is Hopewell Power (China) Limited, with Hong Kong, Japanese and Chinese shareholders. Party B was to be responsible for all foreign currency financing, construction, and the operation, maintenance and management of the project for 10 years. Party A provided the land, arranged special tax treatment, supply coal at a fixed price to Party B, agreed to purchase a minimum amount of electricity at a fixed price throughout the contract period. Party A was supported by a performance guarantee provided by a financial institution in the Guangdong Province.

The total project cost of $512 million was funded by a combination of shareholder equity, subordinated loans, deferred payments in local currency, and debt financing. The debt portion included a 50 billion yen supplier credit by the EXIM Bank of Japan, who, however, would not accept the credit risks involved. Citicorp had to arrange a syndicate of commercial banks to take the project risk and provide a guarantee to Japan EXIM. The balance of the project cost was funded from commercial banks sources with Euroyen 434 million and Hong Kong Dollar 500 million loans together with a loan of RMB 720 million. All financing facilities were executed in April 1986, and the plant was constructed in 28 months, an impressive record.

A refinancing was arranged by Citicorp in 1987, where a European syndicate was formed to prepay the Japanese supplied credit. This resulted in interest rate savings for the project of about US$40 million equivalent.

2.3 Closing Remarks

Attorney Wenceslao R. dela Paz, Executive Director of the Office of Energy Affairs (OEA), closed the Seminar by thanking all the speakers as well as the cosponsors and participants. He complimented on the dynamic exchange between the presenters and the audience, and the extensive scope of information and accumulated experience imparted by the resource team. He recapitulated the key messages and issues raised during the program and told the audience that OEA will continue the process started by the seminar to consult with the private sector and facilitate a broader scale

participation by them in the energy field. He also announced that in the Roundtable, to be conducted the following day, key members of the Philippine Congress will be participating to address legislative measures which may be necessary to accelerate private power. He urged that all the participants continue to be active to move private power in the proper direction, and to bear fruitful results.

3. SUMMARY OF ROUNDTABLE DISCUSSIONS

The second day of the seminar was formatted for a roundtable discussion. It became a forum for key Philippine Government officials to discuss and debate various issues relating to current private power enabling documents including:

1) Executive Order 215, signed by President Aquino in July 1987, legalizing private power.

2) Rules and Regulations to Implement E.O. 215, drafted by National Power Corporation in July 1988.

3) House Bill No. 18414 prescribing guidelines governing private generation of power, introduced by Congressman Herminio S. Aquino.

4) House Bill No. 17001 authorizing the financing, construction, operation, and maintenance of infrastructure projects by the private sector, proposed by Congressmen Payumo, et al.

Philippine Government and development banks represented during this roundtable discussion included:

The Senate
The Congress
The National Power Corporation
The National Economic and Development Authority
Manila Electric Company
Energy Regulatory Board
Department of Finance
International Finance Corporation
Asian Development Bank

Ernesto Aboitiz, President of the National Power Corporation (NPC), told the roundtable that NPC's Congressional budget request for capital infusion for the next 10 years totals $11 billion. However, the current national debt stands at about $28.5 billion, and based on current projections, the government will not be able to support NPC's request. Accordingly, NPC encourages the private sector to propose alternative financing schemes. He also indicated that it takes NPC about 6 to 7 years to build a major power plant because of the many regulatory requirements placed on public sector projects. He noted that comparable private power projects can be implemented in a much shorter time, e.g., 3 years.

Mr. Aboitiz also pointed out that he was in the private power business prior to his being appointed to preside over NPC recently, and therefore could speak from experience on the merits of private power. He encouraged the private sector to come forth with project proposals, and pledged to deal with any proposal with an open mind.

Mr. Aboitiz's presentation helped to stimulate a lively and open discussion on the various issues confronting the implementation of Executive Order 215. It was truly democracy at work for the U.S. participants to witness these discussions and a decision making process taking place among these top Philippine officials on how the information and U.S. private power experience disseminated in the October 5 open seminar should be applied within the institutional framework of the Philippines.

It was significant that the U.S. private power resource team was called upon to give expert opinion during these roundtable discussions so that the team was able to clarify and answer many questions of the legislators, and greatly facilitated their thinking towards definitizing key private power legislation.

The discussions culminated with the three key legislators strongly endorsing private power, and promising to work for the approval of legislation encouraging private investments in power generation. These officials include:

> Senator Vincente Paterno, Chairman of the Senate Committee on Economic Affairs
>
> Congressman Margarito B. Teves, Chairman of the Congressional Committee on Economic Affairs, and
>
> Congressman Herminio S. Aquino, Chairman of the Congressional Committee on Energy.

Strong interest was shown by private businesses represented at this roundtable meeting. The private sector views power shortages as one of the key restraints to continued economic expansion, and lacks confidence in the Government's ability to implement near term solutions. Potential private power project developers and service companies include San Miguel, Caltex, Proctor and Gamble, Citytrust, Gilbert and Commonwealth, and Cogentrix. It is expected that the seminar and roundtable discussions will help to structure guidelines for these private companies to negotiate private power contractual terms with NPC.

The discussions also culminated with the private companies declaring their strong intention to develop private power projects. Cogentrix, representing a U.S. consortium, in particular, stated that private power requires the full cooperation of both the government and the private sector. Speaking for Cogentrix, Mr. Mars Espino urged the private sector companies to do their part to make private power a reality.

4. CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the BOT seminar has enabled the U.S. to assist the Government of the Philippines as well as its private sector at a crucial time when the reliability of future supply of electricity is in jeopardy. Finding a solution to this imminent power crisis has become a common goal of both the Philippine Government and private businesses who jointly would like to see the current surging economic growth be sustained and not derailed by the lack of energy supply. The severe national debt and low credit rating of the country, combined with the complex bureaucracy of the government have made it increasingly more difficult to finance and operate efficiently publicly funded power projects. Reliance on the private sector, even though faced with strong challenges, has become a necessity. Risks are still high, or perceived to be high, especially by major U.S. energy corporations, to develop any major projects on BOT terms. Questions on political stability, sourcing of commercial lending, currency convertibility, etc., are being raised, and there are no easy answers to these questions. It is under these circumstances that the Philippine Government is seriously exploring the private power option, and those entrepreneurs who are more willing to take risks are aggressively probing to try to take advantage of the significant market potential to create a new business line for themselves. In launching the beachhead for A.I.D. private power assistance, attacks are made on two fronts. On the front of policy dialogue with GOP energy organizations such as NPC and OEA and the lawmakers, historical experience in the U.S. as well as overseas is being used to help adopt well thought out policies and legislation to lay a sound foundation for private power. This will define "the rules of the game" in which the stakes are high. The private sector will better understand what to expect when they make a commitment to risk their financial resources in developing a project. On the front of encouraging and facilitating the private sector to develop private power, transferring past project experience will both alert them to the difficulties they will likely face, and point out to them the potential reward of such an endeavour. This will remove the more superficial appeal of BOT and minimize surprises, false hopes and potential disenchantment.

A good beginning has been launched in providing pragmatic private power experience from U.S. "practitioners" to both the government and the private sectors in the Philippines. The momentum of private power interest is building up. There are serious efforts on the part of the government to adopt good policies, and there are also serious efforts on the part of the private sector to initiate viable projects. Nevertheless, this is only a beginning, with many barriers yet to be overcome.

It is recommended that A.I.D. continue to be responsive to the Philippine Government's request for technical assistance in private power policy matters and institution building. However, to achieve tangible results in bringing badly needed power on line, A.I.D. must also pursue aggressively means to identify, assess and assist serious private power project development efforts. Particular attention should be paid to assist promising projects in the pre-investment project development stages to help overcome difficulties in establishing technical feasibility, economic viability, and identifying a realistic pathway for project financing. This will accelerate financial closure and hasten the implementation of these projects. In helping to develop these projects, technical assistance can also position the U.S. for export of energy equipment and services.

EXHIBIT 1

SEMINAR AGENDA

PRIVATE POWER GENERATION
THROUGH
BUILD-OPERATE-TRANSFER

USAID Project on Technology Transfer
for Energy Management (TTEM)

Co-Sponsors:

Office of Energy Affairs
Philippine Chamber of Commerce and Industry

Office of Energy,
U.S. Agency for International Development (USAID)

Objectives:

To impart a broad understanding of the various aspects of the BOT concept, and to assess the views and experience of key practitioners of BOT in the United States

Site:

Manila Hilton
Ballroom A
Manila, Philippines

Date:

Wednesday, October 5, 1988

Goal: PRIVATE POWER GENERATION THROUGH BUILD-OPERATE-TRANSFER (BOT)

Morning:

7:45 - 8-30	Registration
	Welcome and Keynote Address
8:30 - 8:35	Welcome Remarks
	Mr. Tristan Calasanz, Chairman, Energy Committee Philippine Chamber of Commerce and Industry
8:35 - 8:50	Keynote Address
	Hon. Catalino Macaraig, Jr., Executive Secretary Office of the President
8:50 - 9:05	Keynote Address
	Mr. Malcolm Butler Mission Director U.S. Agency for International Development
9:05 - 9:20	Keynote Address
	Mr. Victor Lim, President Philippine Chamber of Commerce and Industry
9:20 - 9:50	Coffee Break

BOT Presentations

9:50 - 10:00	"The Power Crisis: A Role for BOT?"
	Dr. Alberto J. Sabadell, Deputy Director Office of Energy, USAID

20

10:00 - 10:30 "The BOT Concept" and Introduction of U.S. Resource Team

Dr. Ernest Y. Lam, Team Leader
Technical Director, A.I.D. Conventional Energy Technical Assistance Project, Bechtel National, Inc.

10:30 - 11:00 "Independent Power Generation and Electricity Market Structure - A California Regulator's Perspective"

Mr. Donald Vial, Commissioner
California Public Utility Commission

11:00 - 11:15 Open Forum

11:15 - 11:45 "A Utility Perspective in Purchasing Power From Third Party Projects"

M. James K. A. Harral, Assistant to the Vice President, Power Planing and Contracts, Pacific Gas and Electric Company

11:45 - 12:00 Open Forum

12:00 - 1:00 Lunch

Afternoon:

1:00 - 1:30 "The Turkish BOT Power Project Experience"

Mr. William E. Stevenson, Vice President
Bechtel Financing Services, Inc.

1:30 - 1:45 Open Forum

1:45 - 2:15 "Privatization Within the Power Sector - A Contractor's View on the Development and Risk Issues"

Mr. Jerry W. Vargo, Vice President and Director International Business Development and Sales, Combustion Engineering, Inc.

2:15 - 2:30	Open Forum
2:30 - 3:00	Coffee Break
3:00 - 3:30	"The Bankers Perspective" Mr. William Dykes, Vice President and Managing Director, Citicorp International, Ltd.
3:30 - 4:15	Open Forum
4:15 - 4:30	Closing Remarks Attorney Wenceslao R. dela Paz, Executive Director Office of Energy Affairs
4:30	Adjournment

EXHIBIT 2

Seminar Attendees

5 October 1988

ABAYA, RAMON
CEPALCO
673-1535

ABELGAS, HOMER A.
T & D ENG'S. & MKTG. CORP
Q.C.
97-46-47

ABURDO, ILDEFONSO S.
ANGELES ELECTRIC CORP.
ANGELES CITY
613-903

ADAJAR, R. C. T.
CALTEX PHIL. INC.
BATANGAS REFINERY

ADDESION, R.A.
ADB

ADVIENTO, FLORO
NEDA
AMBER AVE, PASIG
673-6461

ALCUAZ, FRANCISCO
SOLOIL, INC.
MANTRADE BLDG. P. TAMO
MAKATI 818-9034
8557528

ALDAY, CLEO
US EMBASSY
395 SEN. GIL PUYAT AVE.
818-66-74

ALDOVER, ROGER Z.
PNOC-ERDC
DILIMAN, Q.C.
97-76-11

ALMAZONA, ROBERTO R.
MERALCO
LOC. 2601
721-9777

ASIA, ROMEO G.
COCA-COLA BOTTLERS
MAKATI
818-8741

ASUNCION, FERDINAND S.
NEDA
673-6461

AUSTRIA, A. T.
UDI/LAHMEYER
3RD FLR. CONCORDE CONDOMINIUM
88-09-42

BADURIA, CCONSTANCIA S.
OEA

BAILE, MARIO C.
NPC

BALLESTEROS, R. R.
UNION GLASS
PASIG

BANARES, R. L.
SMC
ORTIGAS
722-3460

BARCELONA, ROMEA A.
PILIPNAS KAO, INC.
JASAAN, MIS. OR.

BARNES, MICHAEL L.
PHIL GEOTHERMAL INC.
METROBANK PLAZA
15TH FLOOR, MAKATI
817-8876

BARREDO, NEONARDO A.
IMPERIAL TEXTILE MILLS INC.
MARILAO, BULACAN
341714 TO 16

BATICADOS, MA. CRISTINA
PNOC-ERDC
977-611

BATTAD, J.
PDCP
AYALA AVE. MAKATI
810-0232

BAUTISTA, E.A.
FPEC
349 BUENDIA EXT
818-0475

BAUTISTA, JR
FAR EAST BANK
INTRAMUROS
496-192

BELECINA, C. H.
IMPACT TECH SERVICES

BELEN, R. E.
NEA
1050 Q. AVE. Q.C.
99-87-81

BERBA, F. T.
PHILEC
TAYTAY, RIZAL
665-3470

CANCIO, AGUSTIN
PHEONIX INOV. & STEEL
2240 P. TAMO
833-9312

CANETE, ANTONIO
ATLAS MINING

CANLAS, A.G.
NPC
Q.C.
921-34-48

CANOS, J. A.
ALPHA MACHINERY
MAKATI
865556 TO 59

CANTILLER, DANILO B.
NPC

CASACOA, TEDDY P.
OEA

CASTILLO, FERDINAND L.
REPUBLIC CEMENT CORP.
UGONG, PASIG

CATINDIG, RODELIO A.
MAAMBON HYDRO-ELEC. CO
PANGIL, LAGUNA

CESPEDES, RAMON M.
BENGAR, INC.
94 G. ROXAS COR BANAUE
Q. C.
3618224/7260

CHENG, ALVIN
CAPITOL STEEL CORP.
300 QUIRINO HWAY
BAESA, Q.C.

BRIONES, JOSE E.
BENGUET CORPORATION
12 SN MIGUEL AVE.
MANADLUYONG
721-6801

BRIONES, MANNY A.
VERA INDUSTRIES
89 A. CHOSO ST. BF HOMES
PARANAQUE
801-0632

CABIGAS, BEN
JARDINE DAVIES

CADOC, MILDRED
OEA

CALASANZ, TRISTAN H.
PCCI

CALDERON, CHATO
CEPALCO
150 N. BEACON ST. #B-1
BRIGHTON MA 02135

CALICA, GODOFREDO JR.
PNOC
MAKATI
LOC. 484
859061

CALINGO, MICHAEL
ALL ASIA CAPITAL & LEASING CORP.
8183211/15

CALMA. ROSBY S.
ANGELES ELECTRIC CORP.
ANGELES CITY
92310 TO 19

CAMARA, LEO
PILIPINAS SHELL
SHELL HOUSE, MAKATI
35-78-46

CHENG, GEORGE A.
FORTUNE INTEGRATED TEXTILE
MANILA
50-26-81

CHOONG, T. F.
ADB
MANILA
834-3475

CONDE, VIOLY C.
NEDA
AMBER AVE., PASIG
673-6504

CONSTANTINO, ROLANDO C.
COCA-COLA
MAKATI
818-8741

CORTES, ZOILO M.
PEPOA/VECO
CEBU CITY
82544

CRUZ, EDGARDO M.
CALTEX PHIL. INC.
MANILA
521-3501

CRUZ, FELIPE JR.
F. F. CRUZ & CO
800 EDSA
721-8673

DEALINO, A. S.
BENGUET MGMT CORP.
MANDALUYONG
79-79-64

DELGADO, FRANCISCO T.
NPC
921-3037

DELOSO, A. D.
ZAMECO I
IBA, ZAMBALES
86-88-43

DELOSO, AUGUSTO
ZAMECO

DEMTRE, M. C.
USAID
C/O US EMB.
49-29-16

DIMACULANGAN, R. A.
CALTEX
BATANGAS CITY

DOLOSCO, RENNIE
PROCTER & GAMBLE
TONDO, MANILA
212511 (21)

DOTSON, JOHN
USA OFFSHORE INDUSTRIES
1201 LOGAN, PO BOX 3523
TEXAS CITY, TEXAS USA 77570
409 948.3122

DURIAN, L. M.
ERB
772333

EBRADA, NESTOR S.
ALSTHOM INT'L.
MAKATI
818-0470

ELEAZAR, VIVIAN Y.
SMC
MANDALUYONG
722-3417

ESCUETA, RAMON
ASIA PACIFIC SYSTEMS
6TH FLOOR SARMIENTO BLDG. 11
P. TAMO, MAKATI
872081 261

ESPEJO, ELVIE
EBASCO
271 EDSA MANDALUYONG
721-2930

ESPINO, MARS E.
CONGENTRIX
815-1138/40

FAJARDO, F. C.
SMC

FAVORIAL, PERCIVAL F.
FECOPHIL
CASIMAN BLDG. Q. C.
96-80-96

FELISILDA, NILO
VISAYAN ELECTRIC CO.
CEBU CITY

FERNANDEZ, NICK M.
ORIENTAL PET. & MINERAL CORP.
7TH FLR. CORINTHIAN PLAZA
MAKATI, MM
8102621/22

FIRME, W. A.
TCGI ENGINEERS
MAKATI
817-8311

FLORDELEZA, VIRGELIO C.
MERALCO

FOELL, WESLEY K.
AIT. BANGKOK RMA
520 UNIV. AVE.
MADISON, WIS. USA

FOLLOSCO C. JR.
ALPHA MACH. & ENG'G. CORP/
865556 TO 59

FONTILLAS, R. T.
ZAMECO I
MASINLOC, ZAMBALES

FONTILLAS, ROMEO
ZAMECO I

FORD, DOUGLASON
ACI
CALAMBA
817-7401

FRANCISCO, JESUS P.
MERALCO

FUENTES, M.E.B.
ERB
772333

FUJI, KAZUMAJA
MITSUBISHI CORP.
815-9686

FUNTANILLA, MAMERTO H.
MERALCO
PASIG
721-9777

GABA, TERESITA M.
NPC
921-3448

GANESAN, ARI
ADB
834-3408

GARCIA, LETICIA C.
NPC
921-3417

GATCHALIAN, RAFAEL
MERALCO

GERONIMO, B. F.
DTI
817-5234

GONZAGA, MARIANO B.
MERALCO
ORTIGAS AVE.
721-9777

GUERAN, RICARDO P.
MCCI

GUERRERO, W. C.
PHILAMLIFE
LOCC. 2014/2015
521-6300

GUEVARRA, O. C.
PHILEC
TAYTAY
EXT. 7686
721-9777

GUILLERMO, B. F.
COCOA-COLA
MANILA
8188741 265

GUILLERMO, BONIFACIO F.
COCOA-COLA
MANAILA
LOC. 265
818-8741

GUMBAN, ELVIRO B.
AMI-PHIL
PARANAQUE
827-6011

GURREA, RODRIGO C.
SMC
SAN FERNANDO
PAMPANGA
612-531

HAMMOND, JOHN
IDEA
703-875-4072

HAPSORO, AFIANTO
PLN
JL TRUNOJOYO BLMI
135 JAKARTA

HARTZ. HELNUT
SEASAN
MAKATI
815-1138

HORNILLA, NOEL C.
CONNELL BROS. CO PILIPINAS INC.
14 VALERO ST. SALCEDO VILLAGE
MAKATI 817-3694
817-1178

HSU, WM.
PECL

HUANG, ANDREW Z.
CHASE MANHATTAN BANK
BPI-FAMILY BANK BLDG.
PASEO DE ROXAS
818-9862

HULTIN, L.
ADB
834-3891

ICMAT, EVELYN C
ENERGY SUPPORT CORP.
BUENDIA, MAKATI
86-34-28

ISONO, TAKAO
KUMAGSI GUMI CO. LTD.
815-4660

JAO, GARY T.
FORTUNE TABACCO CORP.
MANILA
LOC. 5098
816-3404

JAVATE, R. A.
MIESCOR

JORDAN, ROBERT
USAID
EXT. 2470
521-9777

-26

JOVELLANOS
EDCOP
EDCOP BLDG.
MAKATI
876-435

JUAN. W. J.
VERSATECH CONSULTANTS
MAND.
773362
79-13-52

JULIANO, GODOFREDO A.
GENERAL ELECTRIC
2291 P. TAMO EXT.
MAKATI
815-87-61

KAUPP, A.
OEA
810-3772

KENYON, R. D.
ESI
271 EDSA MANDALUYONG
721-2930

KOUNO, Y.
EPPCI
C/O NPC
49-29-16

LAM, ERNEST Y.
BECHTEL NATIONAL, INC.
1601 N. KENT ST., SUITE 914
ARLINGTON, VIRGINIA 22209, U.S.A.
703-528-4488

LARRACAS, M. U.
ERB
772333

PRESIDENT LEE, AL
C.S. LEE ENTERPRISES, INC.
ALROSE BLDG. 1009 METRO AVE.
MAKATI
86-46-58

LEUTERIO, ELIZABETH E.
NEDA
AMBER AVE., PASIG
673-6518

LIBORO, BENJAMIN
FIRST HOLDINGS/ECCO ASIA
673-0179

LIM, ANTONIO G.
SGV
MAKATI
817-0301

LIM, BENJAMIN
PNOC-ERDC

LIM, DOEY
BCDC
MAKATI
817-1933

LONTOC, ABROSIO L.
FORTUNE TOBACCO CORP.
PARANG, MARIKINA
8165680-89

LOPEX, MARCIANO BRIAN
PHIL. SUGAR ASSN.
1402 PACIFIC BANK BLDG.
AYALE AVE. MAKATI
810-1286

LOYOLA, RAMON A.
SMC
722-3461

29

MAALAT, EDWIN C.
ERB
PHILCOMCEN BLDG.
ORTIGAS, PASIG
77-23-21

MALARKY, DNIELE
JARDINE DAVIES
222 SEN GIL PUYAT AVE.,
MAKATI
819-1671

MARQUEZ, GREGORIO V.
ERB

MARTIN, ARSENIO
MIESCOR
LOC. 6768
721-9777

MARTINEZ, ELENITO B.
ZAMECO I
SALAZAR, PALAWIG
ZAMBALES

MARUOKA, SHUJI
MITSUI & CO. LTD.
88-59-78

MENDOZA, RCP
GILBERT COMMONWEALTH
PEREA, MAKATI
817-1403

MENESES, C. C.
MERALCO

MERCADO, JUANITO N.
PIPEMAN ENT.
151 PANAY AVE.
Q. C.
96-66-20

MOLE, MAGSIKAP B.
MERALCO

MURILLO, GEORGE
SGV

NEPOMUCENO, PETER G.
ANGELES ELECTRIC
717 SFGI BLDG. ORTIGAS
MANDALUYONG
7210414-16

NYMAN, K.
ADB
2330 ROXAS BLVD.
834-3611

OBLIGACION, BONG
B & W INTERNATIONAL
PASIG

OMBAO, JUANILDA R.
NAPOCOR
COR BIR RD. & QUEZON AVE.
Q. C.
921-3448

ONG, J. N.
IMPACT TECH SERVICES
810-5309

ORTALIZA, PACIFICO
LEGASPI OIL
MAKATI
86-79-61

PAGKALINAWAN, AUGUSTO S.
NEDA
673-6518

20

PAGUIO, T. M.
ERB
772333

PALIZA, AUGUSTO
ADVATECH INDUSTRIES INC.
79488898
79-45-74

PAMATMAT, CONRADO C.
MAAMBON HYDRO-ELEC. CO.
PANGIL, LAGUNA

PANGAN, RAQUILINO B.
PEPOA
MAKATI
816-2881

PASCUAL, LORQUEL
ADVATECH INDUSTRIES INC.
794-898
791-574

PATAG, ARMANDO E.
CRC
PEARL DRIVE

PASIG. MM
673-7781

PATAJO, D.
CITYTRUST
SEN. GIL PUYAT AVE.
MAKATI
86-8971

PATINIO, J. S.
FPEC
818-0475

PENULIAR, FRED
JARDINE DAVIES

PERNIA, FERDINAND P.
ERB
72-21-11
77-24-21

PING-YUNG, CHIU

PONDEVIDA, ELINO T.
ERB
77-21-11
77-24-21

PORTUGAL, A. A.
TCGI ENGRS.
LEGASPI VILLAGE, MAKATI

PRAYITNO
PLN
K.S. TUBUN I/2,
JAKARTA

RAASCH, GREGORY
PHIL. GEOTHERMAL INC.
BUENDIA, MAKATI
817-8876

RAMIREZ, A.
MIESCOR
MERALCO
721-9945

RAMOS, FELIX P.
CENTRAL AZUCARERA DE TARLAC
SAN MIGUEL, TARLAC

RAMOS, KIRK Q.
FILIPINAS SHELL
MAKATI
816-6167

RANKEN, RICHARD
IFC
1818 H ST. NW
WASHINGTON, D.C.
5211664 MIA

REINOSO, A. F.
PHILAMLIFE
UN AVENUE

REYERS, E. S.
CALTEX PHIL. INC.
BATANGAS REFINERY

REYES, ROGER Z.
REYES, TREYES & RUDOLP
LAW FIRM
COR MABINI ROSARIO STS.
BACOLOD CITY
2-62-71

REYNO, R. B.
MIESCOR

RIVERA, J. A.
SMC
MANILA
408920 TO 29

RODRIGUEZ, MANUEL C.
OEA-PHIL GERMAN RUE

ROSELO, ALICE G.
NPC

SABADELL, ALBERTO J.
USAID, WASHINGTON, D.C.
703-875-4056

SALGADO, ELPIDIO S.
ERB

SANTOS, ENRICO R.
PNOC
MAKATI
859061

SANTOS, JOPSE ROLANDO R.
EGI
MAKATI
859061

SANTOS, JOSE JR.
MITSUBISHI CORP.
815-9686

SANTOS, JOSE ROLAND R.
EGI
MAKATI
817-7237

SARMIENTO, ALEX B.
WYETH-SUACO LABS. INC.
P. TAMO EXT.
MAKATI
88-19-41

SELIRIO, NOSHER K.
AYC CONSULTANTS
SAGITARIUS BLDG. MAKATI
810-9606

SIY, GEORGE
SOLID MILLS
SUCAT
827-5951

STUGGINS, GARY
ADB
834-3443

SURYANTO, DONATUS LEO
ELECTRICITY BOARD OF INDONESIA
JL SUNAN SGAMPEL 1
KBY. JAKARTA

TABLANTE, C. B.
OEA

TAPEL, R. D.
NEA
96-46-44

TINIO, DOMINGO
CROWNTEX CORP.
2655 LD PANADEROS
STA. ANA. MANILA 59-72-36
590266

TOLEDO, ROSELO T.
DVO LIGHT & POWER CO.
C/O ABOITES
MAKATI
818-2881

TORRES, TOMASILO T.
SMC
SAN FERNANDO
PAMPANGA
615401

UY, R. P.
IMPACT TECH SERVICES
RM 509 PSBANK BLDG.
8191824

VALENCIA, G. B.
SMC
722-3461

VIBAL, DANNY
PIONEER TEXT COR.
OLD ZABARTO RD.
CAMARIN, CAL. CITY
905491 TO 95

VILAR, I. E.
15-16 DAHLIA ST. TAHANAN
VILLAGE, PQUE, MM
8424995/5869

VILLANUEVA, L.R.
NPC

VILLANUEVA, ROLANDO A.
REPUBLIC CEMENT CORP.
UGUNG, PASIG
693-6872

37

EXHIBIT 3

Roundtable Attendees

October 6, 1988

	ATTENDEE	POSITION	ORGANIZATION
1.	Ramon Abaya	President	PEPOA Phils. Elec. Plant Owners Assoc.
2.	Francis Ablan	President	Caltex Phils., Inc.
3.	Ernesto Aboitiz	President	National Power Corp.
4.	Herminio S. Aquino	Congressman/Chairman	Energy Committee
5.	R. Banares	Assist. Vice President	Sam Miguel Corp.
6.	Zoilo Cortez	Vice President	PEPOA
7.	Francisco Delgado	Senior Vice President	National Power Corp.
8.	Marcelino Espino	President	Cogentrix
9.	Marcelo Fernando	Undersecretary	Department of Finance
10.	Jesus Francisco	Senior Vice President	MERALCO
11.	Weslley Foell	Professor	Asian Institute of Technology
12.	Helmut Hartl	Director	Southeast Asian Service & Maintenance Ltd.
13.	William Hsu	President	Pacific Engineers & Constructors, Ltd.
14.	Dr. Higino H. Ibarra	Senior Vice President	National Power Corp.
15.	Ponciano Intal	Director	National Economic and Development Authority
16.	Jose Jovellanos	President	EDCOP
17.	Mario Laqui	Commissioner	Energy Regulatory Board
18.	Victor Lim	President	Philippine Chamber of Commerce and Industry
19.	Renato Limjoco	Vice President	Citytrust
20.	Ramon Mendoza	Phil. Rep.	Gilbert Commonwealth Inc.
21.	Ronnie Nolasco	Operations Manager	Procter & Gamble Inc.
22.	Vicente Paterno	Senator	
23.	Wenceslao de La Paz	Exec. Director	Office of Energy Affairs
24.	Richard Ranken	Director	Int'l Finance Corp.
25.	Antonio Del Rosario	Consultant	Asian Development Bank

26. Rex Tantiongco	Commissioner	Energy Regulatory Board
27. Margarito Teves	Congressman	
28. Pat Valenzuela	Assistant to Sen. Paterno	
29. Alberto J. Sabadell	Deputy Director	Office of Energy, A.I.D.
30. Ernest Y. Lam	Technical Director	A.I.D. Conventional Energy Technical Assistance Project Bechtel National Inc.
31. John Hammond	Senior Advisor	Office of Energy A.I.D.

EXHIBIT 4

Selected Bibliography Relating to Private Power in the Philippines

1. Private Power Generation Through Build-Operate-Transfer Seminar, a collection of the six technical papers handed out to attendees of the seminar, October 5-6, 1988.

2. Executive Order 215, signed by President Aquino in July 1987, legalizing private power.

3. Rules and Regulations to Implement E.O. 215, drafted by the National Power Corporation in July 1988.

4. House Bill No. 18414, prescribing guidelines governing private generation of power, introduced by Congressman Herminio S. Aquino.

5. House Bill No. 17001, authorizing the financing, construction, operation, and maintenance of infrastructure projects by the private sector, proposed by Congressmen Payumo, Tanjuatco, Rivera, de Venecia, Aquino (H.S.), Tinga, Teves, Alfelor, Andaya, Javier (E.), Garin, Beltran, Estrella (E.), Horca, Pilapil and Matti.

6. The Omnibus Investment Code of 1987, Executive Order No 226, July 1987.

7. Rules and Regulations to Implement Executive Order No. 226, April 1988.

8. Power Development Program (1988-2000), National Power Corporation, June 1988.

9. Loan, Technical Assistance and Private Sector Operations Approvals, Asian Development Bank, June 1988. (for official use only)

10. Identification of Major Philippine Public and Private Investment Projects, a report prepared by SGV & Co. for U.S. Department of Commerce, Vol. III Energy Sector, June 1988.

36

11. Luzon Power system Development Study, a report prepared by Bechtel National, Inc. for the Asian Development Bank and the National Power Corporation, March 1988.

12. Philippines: Energy Sector Study, The World Bank, September 15, 1988. (for official use only)

13. An Update on Semirara, by R. B. Bomasang, Bureau of Energy Development, March 1988.

14. Office of Energy Affairs Quarterly Review, Vol XI, No. 1, March, 1988