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Wider environment

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In considering the risks of participating on a major infrastructure project in a developing country, lenders and investors can no longer afford to base their decision solely on the economic and financial merits. More and more important in developing these large projects successfully is a thorough understanding of their long-term benefits and impacts on the local, regional, and national environments ? the community in the broadest sense of that term. Any Prospectus or Information Offering Memorandum should address in a coordinated fashion the economic, environmental, and social issues involved in developing, implementing, and operating a project within that community.

In structuring and seeking approval to implement such a project, the developers/sponsors must create a program that recognizes and responds to the interests and needs of all stakeholders. This multifaceted program reaching well beyond the normal confines of project development is what we call sustainable development.

Sustainable development

The most widely used definition of sustainable development comes from the 1987 United Nations World Commission on Environment and Development, commonly referred to as the Brundtland Commission. ?Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.? Fundamentally, this involves integrating three dimensions ? economic development, environmental protection, and social responsibility ? with a long-term view.

Sustainable development attempts to create an integrated approach to project development, design, construction, operation, and decommissioning that takes into consideration these dimensions. This effectively translates into using environmentally sound design and construction methods, avoiding waste, and being sensitive to present and future stakeholder concerns. Major projects present enormous benefits, but at the same time these benefits must be distributed in a manner that encompasses the people and the region most affected by the development. In addition, sponsors must take into account additional community costs and disruption to the impacted people within the region.

A recent project example provides a view of how we confront these issues and the process of integrating the appropriate development thinking into our business practices.

Project summary

The Quezon power plant is a 440MW, $800 million coal-fired power plant located on the island of Luzon in the Philippines, providing electric power to Metro Manila, an area comprising a population of over nine million. PMR Power (PMR), initiator of the project and a local developer, Ogden Energy, Inc (OEI), and Bechtel Enterprises developed the plant. Bechtel Enterprises' ownership was later transferred to InterGen, a leading private power developer jointly owned by Shell Generating and Bechtel Enterprises.

In 1993, PMR and Meralco, the largest investor-owned distribution utility in the Philippines serving Metro Manila, signed

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an agreement to have PMR develop an independent power plant to sell power directly to Meralco. This initiative was in response to the need for additional power in Manila to avoid continuing brown and blackouts. PMR selected OEI as a co-developer, and together they began to negotiate a power purchase agreement with Meralco in August 1994. Bechtel Enterprises joined the development in September 1994. The three companies formed a team that completed the power purchase agreement, structured the technical, commercial, and financial elements of the development, including acquisition of both a site and right-of-way for a 31-kilometer transmission line, and developed and implemented an international financing plan. The financing was completed in February 1997. In order to meet the schedule requirements, construction commenced two months prior to financial close. The plant entered into commercial operation in May 2000.

The government mandated coal as the source of fuel as part of a diversified fuel strategy. Indigenous gas supply had not been developed when the plant was being planned. However, the plant was modeled after the cleanest burning coal-fired plant in the United States. Coal from Indonesia was selected for its competitive cost, low sulfur content, and burn characteristics. In addition, pollution control equipment was incorporated in the design that far surpassed legal requirements, reducing particulates to one-half the accepted international standard and virtually eliminating nitrous and sulfur oxides from air emissions.

Community acceptance

In November 1995, the project development team established an office in the community of Mauban. Any person or organization concerned or interested in the project could discuss the project with company representatives and receive extensive background information on current and future project activities. In the cover letter to the initial information package sent out to the Department of Environment and Natural Resources and to community members, three key goals outlined the intent of the sponsors in developing and operating the project:

? Full community integration in the development process

? Environmental stewardship at or exceeding all Philippine and World Bank regulations

? Maximization of local community benefits

The critical element of a statement such as this is that the project team must stand behind the commitment through a close relationship with the local community that has as its foundation a level of mutual respect. That further assumes that the project will fulfill its obligations through the entire plant lifecycle, including construction, operations, and decommissioning.

Regulatory approval risk

In assessing project risks, one risk often considered as manageable, particularly in OECD countries, is the regulatory approval process. The regulatory approval process can be divided into two categories: official and unofficial processes. Official processes include environmental regulations, based on clear scientific definitions and limits, design requirements based on published criteria, construction approvals based on published regulations and current practices, safety requirements based on published rules, land acquisition based on legal procedures, and operating requirements based on clear definitions and regulations. These official regulatory processes, although numerous and tedious, but necessary, can be understood and successfully implemented.

However, unofficial processes are more arbitrary and unpredictable. These processes include political pressures, non-government organizations (NGOs) and grass roots opposition, and considerations of cultural and local business practices, community concerns, and other non-quantified and unwritten processes. Although the intent of these processes may be clear, they can stop development progress and not on any official or rationale basis. There may be no clear forum for discussion, and the opposition may not even want to engage in open communications. In fact, the

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opposition may not be interested in fairness or feel compelled to accept rational or scientific arguments. Economic, political, or social interests may be behind these attempts to unofficially ?regulate? a project. Further, in many cases these processes may be clearly, although not expressly, aimed at stopping a project outright. In dealing with these unofficial processes, it is best to maintain open communications and a transparent development process that maintains dialogue with all of the community.

Sustainable development

From the start of the Quezon power project, the project team decided that a strong sustainable development program was essential to the implementation plan. This strategy was partly a response to the progressive energy laws implemented by the Philippines government. The type of project, its location, and the need to relocate residents were also important determinants to the community strategy. Most importantly, as a potential owner and long-term member of the local community, if successful, the development team quickly realized that this was the appropriate approach, respectful and necessary for success. Further, international financial institutions were beginning to make sustainable development a part of their lending practice.

Lender concerns

Over the last few years, the multilateral lending community and commercial banking and credit rating agencies have become much more concerned over the potential risk of government sanctions or local actions against a development. In the Philippines, the Asian Development Bank (ADB) is a common project participant and a well-known voice. The bank has been promoting sustainable development and environmental protection as a key strategic development objective for a number of years. Although the Quezon development team discussed the project with the ADB and considered its involvement initially, in the end the financing structure did not include the bank. However, in point of fact the Bank's policies and guidelines have become the de facto requirements for many well-structured projects in the region.

Plant site

The plant site is six kilometers from the town of Mauban. In 1995, Mauban had a population of about 50,000 and was somewhat remote with difficult access. The people depended on rice farming, coconut harvesting, and fishing for their primary livelihood. The town had unreliable electricity, as evidenced by the need for generators during construction. The plant site itself had the advantage of proximity to deep water for marine access (imported coal delivered from Indonesia) and was sheltered by islands off the coast in the Lamon Bay. However, the site was not ideal due to its steep topography requiring significant earthwork, proximity to rice farms, local lumber mills, and a river. In addition, the plant, coal storage facility, and ash disposal area required land from 50 separately owned parcels. The location also required acquisition of rights-of-way for a 31-kilometer transmission line to the grid substation, impacting almost 400 additional properties.

To acquire the plant site, in addition to the owners, 79 families were directly affected, consisting of 41 tenants and 38 non-tenant/occupants. The developers had continuing close communications with these families to involve them in the plans for relocation. Three options were offered to them:

? Relocation to a new site in a nearby community with a home and lot, power and water, and compensation for the existing structure on the project site and a relocation startup payment.

? Outright fixed cash compensation.

? Outright compensation in an amount equivalent to five times the family's average income over the last three years (only for tenants with agricultural income).

Based on group and individual family meetings, a Memorandum of Agreement was drawn up and signed by all families

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indicating their understanding, agreement, and selection of an option.

Right-of-way acquisition

Right-of-way acquisition for the transmission line involved 389 parcels and was another major effort, employing over 100 people at peak, identifying ownership and obtaining agreements with well over 1,500 family members and other owners. It is important to emphasize the importance of a strong community acceptance program and continued communications as an essential element in securing the right-of-way. The positive perception of the power plant and its benefits to the community were key contributor to its success.

From the point of view of sustainable development, site and right-of-way acquisition was at the heart of the community effort. In addition to the site tenants and occupants, however, local commercial enterprises were impacted. The residents of Mauban were concerned about the potential impact of the plant on the natural environment and on their livelihoods. The surrounding communities were also concerned. These stakeholders reinforced the importance of an extensive community information program, providing as much information as necessary on the plant development progress and on what to expect during construction and operations.

Community Programs

During initial development, programs were instituted for the people of Mauban and particularly the displaced families at the plant site:

? Training programs for plant employment

? Agricultural training programs

? Vocational training, such as automotive technology, masonry and plumbing, welding, electricity, carpentry, dress making, foods technology, and others.

As development continued and construction became imminent, the project development team negotiated and signed a major MOU with all of the project stakeholders, including the province, the municipality, the barangay, the Department of Environment and Natural Resources, NGOs, and concerned groups. This MOU established the obligations of the owners of the Quezon power plant, including required communications and meetings with all stakeholders, compliance with all laws and regulations and the Environmental Compliance Certificate, and preference for local employment and local procurement. In addition, it established the following:

? Electrification fund based on plant revenues for connecting local residents and relocated persons to power

? Development and livelihood fund also based on plant revenues to be used for an ongoing micro-lending program for financing livelihood needs of local people

? Environmental guarantee fund, including establishing an environmental guarantee committee and an environmental monitoring team of local officials, NGOs, and residents

? Environmental enhancement fund based on plant revenue for reforestation, watershed management, monitoring offshore ecology, and other protective efforts implemented during construction or in response to compensatory claims.

? Environmental performance bond to ensure compliance

? Financial support for the community, including construction and improvement of local facilities and schools, road

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improvements, creation of an irrigation dam, improvement of water supply.

In addition, the development team listened to local concerns, signed numerous supplemental MOUs, and responded with appropriate mitigation efforts. For example, in response to concerns with impacts from the use of the ground water, it was decided to use desalinated seawater for operations. In response to questions on the impact of the plant on the fishing industry, an agency of the government was brought in to improve local fishing practices, in addition to an ongoing program of monitoring plankton, fish, coral, and other sea life to ensure controls are working. Finally, during development and construction, facilities in Mauban were added and improved, including a new daycare and recreation center, medical facilities and equipment, cultural and historical buildings, and educational facilities and equipment.

Prior to operation of the plant, frequent brownouts and blackouts in the area negatively impacted the local economy through lost opportunities and reduced growth. As stipulated in the Department of Energy rules, up to 25% of the power had to be distributed locally. Today, the plant's dedicated energy is making a large improvement in the quality of life in the local community.

At peak of construction, the project employed over 3,000 people, many from the local surrounding communities. In commercial operation, about 175 people are employed full-time, with people from the surrounding communities making up about half of these jobs.

Guidelines for Sustainable Development Programs

As a result of the Quezon development and other projects, Bechtel Enterprises recognized the need to establish sustainable development guidelines. Sustainable development has become a core principal of our business. Using an integrated, systems approach to address economic, environmental, and social issues, the goal is to develop projects with minimal impact on the environment, respecting the local community, while providing the greatest possible overall benefit.

The following is a very general summary of steps for developing a sustainable development plan:

1. Determine stakeholder concerns and goals

Stakeholder concerns and goals, as related to the proposed project and its impact on the region, can be identified through a community outreach process, including meetings, surveys, private discussions, public forums, and other appropriate contacts. A demographic survey should be undertaken of the area or region influenced by the project. All stakeholder goals and concerns should be documented and prioritized. Local knowledge and expertise should be emphasized.

? Data collection must be cost-effective and reliable.

? Where possible, new surveys can be grafted onto existing government, NGO, or non-profit supported surveys. Creating a data collection facility should be avoided.

? Stakeholder goals may be general and must be refined and made specific to the project and its surroundings.

? Additionally, performance indicators should be developed during the evaluation stage to discern whether the goals are measurable and/or achievable.

? Goals should be selected across all three core areas: stimulate economic growth, promote environmental protection, and support social equity.

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2. Identify applicable regulatory, permit, and customer requirements

An essential component in a sustainable development plan is identifying all environmental compliance requirements and defining which parties are responsible. During development, information should be gathered as part of an environmental control plan for construction and operations. This is essential since all subsequent environmental components will build from or go beyond compliance.

? Sustainable development must be an integral function of the development team, including activities such as permitting, commercial and financial arrangements (pro forma analysis and information memorandum), community relations, property acquisition, engineering, procurement, and construction management.

3. Determine overarching objectives and performance indicators

From the prioritized list of stakeholder concerns and goals, a list of objectives should be generated. Generally, any project has several levels of objectives; however, most project teams will find it difficult to manage if there are too many competing objectives. Examples of objectives include:

? Stimulate growth in local employment opportunities

? Minimize air pollution

? Encourage public participation

Objectives should be refined in light of cost considerations, customer impact, and probability of success. Alternatives to meeting defined objectives should be considered and the most appropriate selected. This process requires economic, risk, cost-effectiveness, and environmental analysis. A list of plan objectives should be compiled with required inputs from organizations, required responses, associated risks and assumptions, and anticipated outcomes, impacts, and indicators.

4. Develop and implement detailed program plans

For each plan objective, a separate program or sub-plan should be developed that addresses how to achieve the objective, including activities, personnel, potential partners, funding sources, time-schedule, costs, and indicators of success. These sub-plans will guide the implementation process.

? Memoranda of Agreement (MOA) safeguard both the community and project developers through clear definition of the benefits, the limits, and the responsibilities of the parties to the agreement.

? Minutes of all meetings, forums, and hearings should be incorporated in project documentation.

? Technical information should be disseminated to local community in easily understood language.

5. Assess performance indicators

At the appropriate stage of project implementation, the results should be assessed relative to the sustainable indicators of success designed in step four. These indicators should focus on what the plan is accomplishing, especially in terms of its impact on people and the environment. Indicators should measure results, not just processes:

? During construction, the sustainable development function should remain within the project structure. Those responsible for sustainable development plan components should be responsible for project implementation and should

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interface with other project team members to maintain two-way communications.

? Project performance should be monitored relative to compliance to requirements and standards of objectives and sub-plans.

6. Corporate Commitment

An effective and meaningful sustainable development program must be integrated into the way a company executes its work, approaches its responsibilities, and manages its personnel. It must find its way into every level of the company and must be seen as an essential element of success. The commitment must be clear from top to bottom:

? A champion of sustainable development should be recognized whose performance depends on fostering and growing a corporate commitment.

? A sustainable development plan must be an integral part of all projects.

? Employees' awareness and training must be maintained.

? An effective system of indicators and audit procedures should be in place.

? Sustainability should be a priority in technology and site selection and use.

? The interests and needs of local communities must be integrated into the development process.

? An active program requires participation in international programs and activities devoted to solving global environmental problems.

Today, the Quezon power plant is operating at full capacity, generating electricity both locally and to Metro-Manila, providing jobs and secondary benefits, helping a developing economy continue its growth, and benefiting its shareholders. The town of Mauban is better off without any loss to the social fabric of the community or the environment. For the local and federal government, and specifically for the Department of Environment and Natural Resources, this project serves as a benchmark for future public-private developments.

The international financial community validated its risk profile by providing financing without the benefit of a direct government guarantee. Further, early in the construction period, a fully SEC registered international bond issue was successfully floated ? the first of its kind for an emerging market country ? further validating the structure.

For Bechtel Enterprises, sustainable development has become a competitive imperative. Yes, it requires us to be more innovative ... use more of our imagination. Yes, it requires us to evaluate community impacts and link community involvement to project planning. And yes, it requires us to adopt life-cycle thinking into project development and operation. But in return, it reduces project risks ? environmental, political, and financing. It increases value to investors and stakeholders, strengthens local relationships, enhances our reputation, and improves our access to emerging markets.

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