PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE

Report No.: 90081

Project Name	Myingyan Power Generation Project (MPGP)
Region	EAST ASIA AND PACIFIC
Country	Republic of the Union of Myanmar
Sector(s)	Thermal Power Generation (100%)
Lending Instrument	IDA Guarantee
Project ID	P151366
Borrower(s)	Ministry of Finance
Implementing Agency	Ministry of Electric Power, Myanmar Electric Power Enterprise
Environmental Category	A-Full Assessment
Date PID Prepared/Updated	23-June-2014
Estimated Date of Appraisal Completion	15-January-2015
Estimated Date of Board Approval	26-March-2015
Concept Review Decision	
Other Decision (as needed)	

I. Introduction and Context

A. Country Context

1. Myanmar is the largest country in mainland Southeast Asia with a land area of about 654,000 square km. With the population of about 60 million, Myanmar has one of the lowest population densities in the region. The country is endowed with significant natural resources and agricultural potential. Its geographic location between China, India and Thailand, and more than 2,800 km of coastline, leave it well positioned to resume its traditional role as a regional trading hub and key supplier of minerals, natural gas and electric power.

2. Myanmar is a culturally and ethnically diverse country, comprising more than 130 ethnic groups across countries and regions. It is one of the poorest countries in the East Asia and Pacific Region, with an estimated gross domestic product (GDP) per capita of between US$500-800. While reliable poverty data are scarce in Myanmar, all indicators point to poverty being concentrated in rural areas: two rounds of household surveys (in 2005 and 2009) supported by the United Nations Development Program highlight significant differences in poverty across geographical areas, and the bulk of the poor are reported to be concentrated in rural areas. Available figures also suggest that social indicators are poor, for example 32 percent of children under five suffering from malnutrition, the highest rate in the

region. Agriculture is the mainstay of the national economy, generating approximately 43 percent of gross domestic product, 54 percent of employment and providing livelihoods to more that 70 percent of the population.

3. The Government of Myanmar (GoM) has set economic reform as a key priority and announced a series of reforms to remove economic distortions, such as floating their currency, new fiscal regulations to rationalize personal income tax and reduce consumption tax, reforms aimed at developing the private sector and stimulating direct foreign investments, a review of the financial sector, promotion of access to finance, and creation of an environment conducive to job creation.

4. The government's plans recognize that expanding the quantity and quality of basic infrastructure and improving access to modern energy in an efficient and effective manner is crucial to both economic growth and poverty reduction. Given the large scale of infrastructure needs, the GoM is committed to attract significant private sector participation, including through independent power producers (IPPs) in the electric power sector.

B. Sectoral and Institutional Context

5. **Myanmar energy consumption is among the lowest in the world.** About 73 percent of the population has no access to electricity, and the consumption per capita is 160 kWh per annum, twenty times less than the world average. Rural areas remain mostly unelectrified, with only 16 percent of rural households with access to grid-based electricity. Also, access to modern fuels for cooking (such as LPG) is limited to urban areas. Consequently, traditional biomass (fuelwood and animal dung) is widely utilized and accounts for about two-thirds of Myanmar's primary energy consumption.

6. **However, demand for electricity in Myanmar has grown significantly in recent years.** The annual peak load demand reached 1,850 mega-watts (MW) in 2013, growing on average 7.7 percent per annum in the past five years. During this same time, the electric energy supplied to the national grid grew on average almost 12 percent per annum. By early 2013, Myanmar's total installed capacity comprised about 2,660 MW of hydro power capacity and about 715 MW of thermal power capacity. Nevertheless, electricity shortages and supply disruptions remain prevalent in the country due to inefficiency and low availability of power generation and over 20 percent losses in the transmission and distribution network.

7. **The energy sector institutional framework is fragmented.** Seven ministries are responsible for activities in the energy sector, with the Ministry of Energy (MOE) serving as the focal point for overall energy policy, and the Ministry of Electric Power (MOEP) as lead agency for power sector development. The Myanmar Electric Power Enterprise (MEPE) is responsible for gas-based electricity generation, acts as the single-buyer of electricity, and operates the electricity transmission network. Overlapping responsibilities for policy-making, regulation, planning and supervision between several ministers hamper operations of eight state-owned enterprises (SOEs – four in the power sector and four in the oil and gas sector), which are directly responsible for implementation of sector activities including investment operations. Furthermore, low number of staff dedicated to energy policy and regulation in

MOE and MOEP poses severe limits on their institutional capacity.

8. **The main challenges facing the Myanmar electricity sector can be divided in two time horizons.** In the near-term (2013-2015), the main challenges are: (i) to maximize efficiency of power generation, reduce losses in transmission and distribution networks, and reduce electricity shortages; (ii) to improve financial viability of sector enterprises; (iii) to secure affordable funding for capital investments in urgently need power generation. In the medium to longer term, the main challenge facing the energy sector is to secure reliable, affordable and environmentally and socially sustainable energy supply. These challenges are detailed in the Outline of Energy Development Policy, prepared by the WBG and broadly agreed with Myanmar's National Energy Management Committee in 2013.

9. **The GoM plans to promote public-private partnerships (PPPs) and attract IPPs to accelerate expansion of power generation and boost power supply.** Specifically, the recently drafted Electricity Law introduces basic provisions for the licensing of IPPs and concession awards in the power sector. This has attracted significant interest from the private sector despite low institutional capacity in the government agencies responsible for the procurement of IPPs. Also, the availability of gas for the domestic market is a major constraint for the construction of new gas-fired power plants in the near term.

10. **The World Bank Group (WBG) is responding to the near-term challenges in multiple ways.** The Myanmar Electric Power Project was approved in September 2013 and will be financing 106 MW of new generation capacity to be added to the national grid. The project provides technical assistance on designing the National Electrification Plan and preparing a project to implement electrification program, power sector financial viability, and electricity tariffs and subsidies review. The IFC is advising the MOEP to develop a business model for private participation in power generation. The IFC is also reviewing investment prospects in the distribution sector through the Yangon Electricity Supply Board, and in grid and off-grid private power generation projects.

11. **To continue WBG support to the Myanmar power sector, this proposed project aims to facilitate the development of new power generation capacity by the private sector.** The proposed Myingyan Power Generation Project (the "Project") combines financial advisory support from IFC and an IDA Guarantee to mitigate selected risks facing private sector lenders and investors to Myanmar. It also helps the GoM attract competitive bid proposals and reduce the cost of electricity supplied by IPPs. This is a second WBG-supported project, following the Myanmar Electric Power Project. Although the Project is not designed as a direct access to electricity project, the Project is a part of a broader WBG's support to expand electricity access in Myanmar. This project will utilize high efficiency CCGT (Combined Cycle Gas Turbine) technology, which is the least cost approach to rapidly increase electricity production from natural gas, while minimizing CO_2 emissions. The additions of CCGT are contemplated in the ongoing Power Sector Master Plan study supported by JICA.

C. Relationship to CAS

12. After more than two decades absent from the country, the WBG is re-engaging in the

development of Myanmar. On October 30, 2012 the WBG approved an Interim Strategy Note covering an 18-month period focusing on programs that can support the GoM in the country's current triple transition - from an authoritarian military system to democratic governance, from a centrally-directed economy to market-oriented reforms, and from conflict to peace in the border areas - for the benefit of the people of Myanmar. The ISN outlines support around three pillars: the first aimed at supporting GoM's efforts to transform institutions to allow them to deliver for citizens; the second at building confidence in the ongoing reform process; and the third focused on preparing the way for the resumption of a full country program.

13. The proposed project would support Pillar I by strengthening the capacity of electric power agencies to deliver sustainable energy for citizens. The proposed project also supports Pillar II by building confidence for international private financiers to invest in the power generation business in Myanmar; and Pillar III by continuing WBG's engagement in infrastructure by addressing immediate needs in coordination with the private sector.

II. Proposed Development Objective(s)

A. Proposed Development Objective(s)

14. The project development objective is to increase the availability of electricity generation capacity by the private sector in Myanmar.

B. Key Results

15. The expected results will be a successful development of a new gas-fired power generation plant by the private sector within specifications, schedule and budget. The IDA Guarantee will help mobilize international commercial debt financing for the first internationally tendered private power project in Myanmar.

16. Achievement of the project development objectives will be measured by the: (i) installed capacity of gas-fired power generation constructed under this project (MW) – core indicator; (ii) electric energy generation (kWh) from new gas-fired power generation; and (iii) amount of private funding mobilized (US$).

III. Preliminary Description

Concept Description

17. A proposed IDA Guarantee in support of the Project will be offered to the selected private sector project developer, subject to receipt of a request for such guarantee from the GoM.

18. The project contemplates the development, financing, construction, operation and maintenance of a 250MW gas-fired combined cycle power station along with support facilities at Myingyan on a Build, Operate, and Transfer ("BOT") basis. The project will be implemented by a project company to be set up by the successful private developer selected through a competitive tender process, which will provide electricity to MEPE pursuant to a power purchase agreement. Gas will be supplied by MEPE, which will procure gas from the Myanmar Oil and Gas Enterprise (MOGE) under the Ministry of Energy.

19. The main physical component of the proposed project is a modern, high-efficiency Combined Cycle Gas Turbine (CCGT) power plant with a capacity of about 250 MW. The project cost is expected to be around US$ 250 million and will be financed by the selected bidder, most likely by international lenders and investors.

20. The project site is located in Mingyan Township, Mandalay Region, about 100 km southwest from Mandalay city. The land for the project is owned by the Ministry of Industry, and will be leased to the Project. No resettlement is expected.

The associated infrastructure for the power plant includes:

(i) A new 10–15 km water pipeline and pumping station(s) to bring water from the Irrawaddy River to the project site, and for return discharge. The pipeline will be implemented by the Project on the existing right of way along an existing irrigation canal owned by the Ministry of Agriculture. The quantity of water required will be determined by the bidders, depending on power plant specifications. The required water usage permission(s) from various authorities are being confirmed. This new water infrastructure may not be required if the power plant employs air cooling technology;

(ii) A new approximately 3 km of power transmission line to evacuate electricity from the power plant to the existing substation. The transmission line will be implemented either by the Project or MEPE, and will be built on land owned by the Ministry of Industry. No resettlement is expected;

(iii) A new approximately 20 km of natural gas pipeline spur to transport natural gas from the existing Taung Thar Offtake Station to the project site. The gas pipeline spur will be implemented by MOGE. The pipeline route is expected to pass privately owned land. No resettlement is expected, but compensation to private landowners for access right is envisaged;

(iv) A road to the project site already exists, but may be upgraded to accommodate the new

power plant. The arrangement for road upgrade will be subsequently confirmed

IV. Performance Standards that Might Apply

World Bank Performance Standards for Private Sector Projects Supported by IBRD/IDA	Yes	No	TBD
PS 1: Assessment and Management of Environmental and Social Risks and Impacts	X		
PS 2: Labor and Working Conditions	X		
PS 3: Resource Efficiency and Pollution Prevention	X		
PS 4: Community Health, Safety, and Security	X		
PS 5: Land Acquisition and Involuntary Resettlement	X		
PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	X		
PS 7: Indigenous Peoples			X
PS 8: Cultural Heritage			X

V. Tentative financing

Financing Source	Amount
Borrower	0.00
International Development Agency Guarantee	100.00
Financing Gap	0.00
Total	100.00

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