

## TECHNICAL ASSISTANCE COMPLETION REPORT

Division: Infrastructure Division

TA No., Country and Name TA 6100-REG: Study for a Regional Power Trade Operating Agreement in the Greater Mekong Subregion			Amount Approved: \$850,000	
			Revised Amount: N.A.	
Executing Agency: Asian Development Bank	Source of Funding Technical Assistance Special Fund	Amount Undisbursed: US\$40,972	Amount Utilized: \$809,028	
TA Approval Date: 21 April 2003	TA Signing Date: N.A.	Fielding of First Consultants: 13 October 2003	TA Completion Date Original: 31 Dec 2005    Actual: 1 Oct 2007	
			Account Closing Date Original: 31 Dec 2005    Actual: 30 Nov 2007	
<b>Description</b>				
<p>Since 1992, the six member countries (Cambodia, Lao People's Democratic Republic, Myanmar, People's Republic of China, Thailand, and Viet Nam) of the Greater Mekong Subregion (GMS) have embarked on a program of economic cooperation that aims to promote development through closer economic linkages. At the first GMS summit in 2002, the leaders of six GMS countries signed the Inter-Governmental Agreement (IGA) on Regional Power Trade. Following the ratification of the IGA by all GMS countries, a Regional Power Trade Coordination Committee was created in 2004 consisting of representatives from power utilities and energy ministries in each GMS country. In this context, the GMS countries requested Asian Development Bank (ADB) to provide a technical assistance (TA) to prepare a regional power trade operating agreement (PTOA) in the GMS.</p>				
<b>Expected Impact, Outcome and Outputs</b>				
<p>The TA was expected to enhance power trade in the GMS so as to provide reliable and economical supply of electricity to consumers, develop sustainable energy resources, and extend economic cooperation in the GMS. The output of the TA was to help GMS members prepare a regional PTOA.</p>				
<b>Delivery of Inputs and Conduct of Activities</b>				
<p>The activities of the TA include (i) consolidating and reviewing the existing studies and agreements; (ii) reviewing similar operating agreements in other power markets; (iii) developing desirable forms of power trade, taking into account the study for options for the structure of power market in the GMS; (iv) recommending the rules and guidelines of technical coordination; (v) preparing cross-border transmission pricing schemes; (vi) recommending necessary institutional framework; (vii) drafting the PTOA; (viii) finalizing the PTOA through facilitation of review and negotiations among GMS members at relevant GMS energy meetings; and (ix) identifying training needs and initial basic infrastructure.</p>				
<p>A consultant firm was recruited in October 2003 to undertake the above activities, and an interim report was submitted in April 2004. Based on the comments received from GMS countries and ADB, a final report on the regional PTOA design was submitted in October 2004. The findings of the final report indicate that the development of power trade in the GMS should have four well-defined stages as follows: (i) bilateral cross-border connections through power purchase agreements; (ii) grid-to-grid power trading between any pair of GMS countries, eventually using transmission facilities of a third regional country; (iii) development of transmission links dedicated to cross-border trading; and (iv) most of GMS countries have moved to a multiple sellers-buyers regulatory frameworks, so a regional wholly competitive market can be implemented. On this basis, a Memorandum of Understanding on the guidelines of the implementation of regional PTOA—Stage 1 was signed on 5 July 2005 by the Ministers of Energy of the six GMS countries.</p>				
<p>The TA objective and the terms of reference were well formulated. The GMS countries fully cooperated with the consultant and provided needed data and information for the final report and other studies undertaken under the TA. ADB participated as co-chair in the Focal Group (FG) and Planning Working Group (PWG) meetings and ensured close coordination with GMS countries during the implementation of the TA.</p>				

With the support of the TA, the FG and PWG, which serves as an ad-hoc technical group of the FG, were established to undertake priority activities identified by the GMS countries to develop power trade. Such priority activities include (i) developing best practices for power purchase agreements for regional power trade; (ii) developing and maintaining a regional database on the GMS's power sector; (iii) developing transmission performance standards and regulations; and (iv) developing the regional power master plan, which would harmonize the generation and transmission plans of the individual countries. At the time of TA completion, four FG meetings and three PWG meetings were held to review the draft transmission standards and the regional power master plan.

#### **Evaluation of Outputs and Achievement of Outcome**

The final report prepared by the consultant was satisfactory, and served as a basis for the Memorandum of Understanding signed by GMS countries in July 2005. The targets and indicators set in the design and monitoring framework have been achieved. The extension of the TA was granted to support the FG and PWG meetings to implement the priority activities agreed by the GMS countries.

#### **Overall Assessment and Rating**

The TA was relevant at the time of its design and efficacious in achieving its objective. Overall, the TA is rated as highly successful.

#### **Major Lessons**

Regional integration in the power sector requires a phased-approach starting from bilateral trade to competitive regional markets. Before the GMS countries can move to the next stage, regional institutions need to be set up with adoption of necessary regulations and technical standards. Moreover, the environmental impacts of the power trading should be incorporated into project design and implementation.

#### **Recommendations and Follow-Up Actions**

Further TA is recommended to support regional institutional strengthening, capacity building, and technical skills development of the utilities and government agencies of GMS countries.

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