

MEMORANDUM OF UNDERSTANDING

on the

ROAD MAP FOR IMPLEMENTING THE GREATER MEKONG

SUBREGION

CROSS BORDER POWER TRADING

PREAMBLE

The Governments of the Greater Mekong Sub-region (hereafter referred to as GMS), namely: the Kingdom of Cambodia, the People's Republic of China, the Lao People's Democratic Republic, the Union of Myanmar, the Kingdom of Thailand, and the Socialist Republic of Viet Nam (hereafter referred to as the Parties);

RECOGNIZING that the power utilities of the Parties are engaged in the electricity supply business in their own countries and that the said utilities agree on the benefits in continuing with the development of power interconnections between their countries power networks to: (i) enhance the reliability and security of power supply, (ii) coordinate the planning and operation of regional power generation and transmission facilities in the GMS, (iii) reduce total investments and operating costs, and (iv) share other benefits resulting from the interconnected operations of their systems;

MINDFUL that the Parties have demonstrated their recognition of the benefits of power sector cooperation by forming the GMS Electric Power Forum (EPF) in 1995 and the Experts' Group on Power Interconnection and Trade (EGP) in 1998 to study and provide recommendations regarding power exchanges in the GMS, and by signing the Inter – Governmental Agreement (IGA) on Regional Power Trade (RPT) in the GMS during the First GMS Summit of Leaders held in Phnom Penh, Cambodia in November 2002;

RECALLING that the Regional Power Trade Coordination Committee (RPTCC) established by the IGA in 2004 was primarily tasked to determine the initial steps to establishing and implementing the arrangements for regional power trading, including the preparation of a draft Regional Power Trade Operating Agreement (RPTOA) which will specify the technical operating rules, coordination arrangements and other necessary steps for achieving the objectives of regional power trading in the GMS.

CONSIDERING that studies undertaken after the signing of the IGA, specifically the study of options for the structure of the GMS power trade market, and the study for a regional power trade operating agreement (RPTOA) in the GMS, recommended a four (4) stage approach to the development of GMS Power Trade and following which, the Parties signed a Memorandum of Understanding (MOU) on the Guidelines for the Implementation of the RPTOA-Stage 1 during the Second GMS Summit of Leaders held in Kunming, PRC in July 2005 (hereinafter referred to as MOU-1), where it was agreed to set the guidelines for the first stage (Stage 1) of regional power trade.

CONSIDERING that the MOU-1 prescribed the institutional and other arrangements for stage 1 of power trade, including the transactional and operational aspects of cross-border interconnections and load flows, and has led to the establishment of the (i) Focal Group (FG) of RPTCC tasked with coordinating priority RPTCC activities in each country, and (ii) Planning Working Group (PWG), tasked to undertake planning and system operation studies that would help the GMS countries move towards common power trading guidelines.

ACKNOWLEDGING however that the MOU-1 does not specify timelines against which the GMS countries could measure the progress of their power development programs and cooperation in power trade development in relation to the objectives of the IGA. As defined in the RPTCC's tasks under the IGA, it is important for the GMS countries to agree on a Road Map for regional power trade with timelines that ensure timely implementation of all measures to fully achieve Stage 1 of power trade, and from thereon to prepare the GMS countries for advancing to Stage 2 of regional cross border power trading.

Now, through their duly authorized representatives who are the signatories of this Memorandum of Understanding (MOU-2), the Parties agree as follows:

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Kunjit N.

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ARTICLE 1: PURPOSE OF THE MOU-2

The purpose of this MOU-2 is to prescribe a Road Map with indicative timelines to fully achieve Stage 1 of regional cross border power trade during the period 2008-2012 and the measures to be taken during implementation of Stage 1 in order to prepare for Stage 2.

ARTICLE 2: CURRENT STATUS OF GMS REGIONAL CROSS BORDER POWER TRADE

In the GMS, regional cross border power trade is currently ongoing between some member countries — the People's Republic of China (PRC) to Viet Nam; Lao People's Democratic Republic (Lao PDR) to Cambodia; Lao PDR to Thailand; Thailand to Cambodia; Viet Nam to Cambodia; and Viet Nam to Lao PDR. These power flows are mostly one-way now but the aim of the GMS countries is to create regional cross border power trading to gain mutual economic and technical benefits, have a balanced generation from regional energy resources that enable electricity transfers across their borders and throughout the subregion. Given their different levels of technical capacity, the six GMS countries have agreed to a phased approach to enhancing regional power trading according to the MOU-1.

Stage 1 corresponds to the initial period when only country-to-country power transactions are possible, before a regional transmission network is established to enable power trading between any pair of member countries. During this period, the existing cross border transmission lines are mostly associated with Power Purchase Agreements (PPAs) between a power utility and Independent Power Producer (IPP) located in one GMS country selling power to a power utility in another GMS country. The cross border power trading in Stage 1 refers to opportunity exchange of power between power utilities of the Parties using the excess capacity of existing cross border transmission lines over and above the transmission capacity required for power transfers associated with PPAs.

Stage 2 corresponds to the moment when trading will be possible between any pair of GMS countries, eventually using transmission facilities of a third regional country. However in this stage the available cross border transmission capacity is limited and based on surplus capacity of lines linked to PPAs.

ARTICLE 3: ROAD MAP TO FULLY ACHIEVE STAGE 1

The following indicative timelines are prescribed to fully achieve Stage 1:

- Complete the study on a GMS Performance Standards for (i) new regional interconnections and for the synchronized operation of interconnected grids, and (ii) the transitional arrangements to achieve the GMS Performance Standards by 2010.
- Complete the study on Transmission Regulations to coordinate the operation and power flow control in grid-to-grid interconnections synchronization and operation by 2010.
- Complete the indicative power interconnection master plan by 2008 and select priority new interconnection projects for undertaking feasibility studies by 2009.

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- Complete the study on standard regional metering arrangements and communications system in grid-to-grid interconnections for implementation during Stage 1 by 2010.
- Complete the study on power trade rules, including resolution mechanisms for disputes outside the existing PPAs by 2010 for implementation during Stage 1.

ARTICLE 4: ROAD MAP ACTIVITIES DURING STAGE 1 AND IN PREPARATION FOR STAGE 2

The following indicative timelines are prescribed the activities to be developed during implementation of Stage 1 as preparatory work for moving to Stage 2 of regional cross border power trading:

- Complete the study on a GMS Grid Code (Operational Procedures), which includes performance standards, metering, communication and coordination procedures for regional network interconnections.
- Undertake the study to identify the regulatory barriers to the development of power trade and implementation of next stages.
- Complete the study on Stage 2 Transmission Regulations to allow third party access in interconnections, giving priority to contracts/PPAs, including Stage 2 power trade rules, and Dispute Resolution Mechanism.

The Annex identifies the indicative activities and the timelines prescribed in this MOU-2.

*Jawas
Kunjit N.*

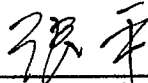
AS *W*

MA

Signed in Vientiane on 31 March 2008:



His Excellency Suy Sem
Minister of Industry, Mines and Energy
Kingdom of Cambodia



His Excellency Zhang Ping
Minister of National Development and Reform Commission
People's Republic of China



Her Excellency Khempheng Pholsena
Minister of the Prime Minister's Office,
Head of Water Resources and Environment Administration,
and Minister of GMS
Lao People's Democratic Republic



His Excellency U Soe Tha
Minister of National Planning and Economic Development
Union of Myanmar

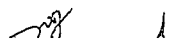


His Excellency Somchai Wongsawat
Deputy Prime Minister and Minister of Education
Kingdom of Thailand



His Excellency Nguyen Thanh Bien
Deputy Minister of Ministry of Industry and Trade
Socialist Republic of Viet Nam

*Lawas
Krujit W.*



**ANNEX – ACTIVITIES AND TIMELINES OF THE REGIONAL CROSS BORDER
POWER TRADE ROAD MAP, 2008-2012**

GMS CROSS BORDER POWER TRADE ROAD MAP Timelines to Fully Achieve Stage 1		
Milestone	Activities	Schedule
Complete the indicative power interconnection Master Plan and select priority new interconnection projects for undertaking feasibility studies	Complete the GMS indicative master plan for power development	2008
	Select priority interconnection projects identified in the master plan	2009-2010
	Develop feasibility studies of selected priority projects	2009 onwards
	Update the regional indicative Master Plan	Every two or three years
Complete the study on GMS Performance Standards	Complete the study on GMS Performance Standards and consider for adoption the suggested GMS Performance Standards on new regional interconnections and for the synchronized operation of interconnected grids	2010
	Consider for adoption the proposed transitional arrangements to achieve GMS Performance Standards	2010
Complete the study on Transmission Regulations	Complete the study on Transmission Regulations and consider for adoption the findings of the study to coordinate the operation and power flow control in grid-to-grid interconnections synchronization and operation.	2010
Complete the studies on standard regional metering arrangements and power trade rules	Complete the study on standard regional metering arrangements and communications system in grid-to-grid interconnection for implementation during Stage 1 and consider for adoption the findings of the study.	2010
	Complete the study on power trade rules, including resolution mechanisms for disputes outside existing PPAs for implementation during Stage 1, and consider for adoption the findings of the study.	2010

GMS CROSS BORDER POWER TRADE ROAD MAP Timelines To Prepare for Stage 2		
Milestone	Activities	Schedule
Undertake the study to identify the regulatory barriers to the development of power trade and implementation of next stages.	Complete the study to identify the regulatory barriers to development of power trade and consider for adoption the measures and institutional arrangements to address regulatory barriers	2012
Complete the study on a GMS Grid Code (Operational Procedures)	Complete the study on a GMS Grid Code and consider for adoption the findings of the study, which includes: <ul style="list-style-type: none"> - GMS Performance Standards - Coordination procedures between System Operators to schedule and control cross border flows, management of deviations - Metering and communications - Sharing of power reserves and support during emergencies. 	2010-2012
Complete the study on Stage 2 Transmission Regulations to allow third party access in interconnections, giving priority to contracts/PPAs, including Stage 2 power trade rules, and Dispute Resolution Mechanism	Complete the study on Stage 2 Transmission Regulations and consider for adoption the findings of the study to include development of payment agreements/ tariffs for third party use, to compensate countries that host flows linked to third parties' trading	After 2012
	Develop and consider for adoption power trade rules for short term cross border trading	By 2012
	Develop and consider for adoption power trade rules for settlement of deviations to scheduled power trade in grid-to-grid interconnections	By 2012