

Greater Mekong Subregion
Ninth Meeting of the Subregional Electric Power Forum (EPF-9)

Yangon, Union of Myanmar
11 October 2002

Summary of Proceedings

Introduction

1. The Ninth Meeting of the Subregional Electric Power Forum (EPF-9) was held in Yangon, Union of Myanmar, on 11 October 2002. The Meeting was co-organized by the Ministry of Electric Power (MOEP), Government of the Union of Myanmar, and the Asian Development Bank (ADB).

2. The participants included delegations from the Kingdom of Cambodia, the People's Republic of China (PRC), the Lao People's Democratic Republic (Lao PDR), the Union of Myanmar, the Kingdom of Thailand, and the Socialist Republic of Viet Nam. Representatives from the World Bank, Japan Bank for International Cooperation (JBIC), Japan International Cooperation Agency (JICA), and ADB also attended. The list of participants is attached as Appendix 1.

3. The EPF-9 meeting discussed the progress towards the signing of the Inter-Governmental Agreement on Regional Power Trade in the GMS (IGA) and the structural, institutional and regulatory options for the future GMS regional power market.

4. The Agenda and Program of the Meeting is attached as Appendix 2.

I. Opening Session

5. H.E. U Myo Myint, Deputy Minister, Ministry of Electric Power (MOEP), Government of the Union of Myanmar, and Mr. Khalid Rahman, Director, Infrastructure Division (MKID), Mekong Department, ADB, delivered the opening remarks.

6. H.E. U Myo Myint extended his most cordial welcome to the participants of the Meeting. He recalled that the first EPF meeting was held in Yangon in 1995 and expressed honour for hosting the meeting for the second time. He reviewed the activities of the EGP-8 meeting held the previous day and noted the substantive discussions on future energy cooperation. He gave a preview of the EPF-9 meeting agenda. He congratulated all concerned for their efforts to prepare the IGA for signing in the coming GMS Summit. He noted that while Myanmar had not received ODA assistance in the past few years, it had relied on its own resources and participated actively in the GMS economic cooperation program. He believed the discussions at the EPF-9 meeting would promote realization of the regional power market. He wished everyone good health and success in their deliberations.

7. Mr. Khalid Rahman welcomed participants to the meeting and noted the historic milestone achieved last month when all six GMS members initialed the IGA during the GMS

Ministerial Conference in Phnom Penh. The formal signing of the IGA during the GMS Summit in November would be a befitting achievement of the GMS Program on its tenth anniversary. He thanked and congratulated the EGP and EPF members for their dedication and valuable contribution to the IGA. He said that we now have to move forward to the goal of a Power Trade Operating Agreement (PTOA), and one of the sessions is on Institutional and Regulatory Issues in Regional Power Market Structures. Discussions on this would help form a decision on the future GMS power market and contribute to the study on the PTOA. He looked forward to reports from PRC on the power sector reform in China. He expected that the fruitful deliberations during the meeting would lead to critical next steps in regional power market and trade. He thanked the Myanmar Government for graciously hosting the meeting.

II. Presentation on Regional Power Market in the GMS

Progress Towards Signing for the IGA

8. Mr. Kim reported that all six GMS members have initialed the IGA at the 11th GMS Ministerial Conference held in Phnom Penh in September 2002. All six GMS members were expected to sign the IGA during the GMS Summit in November 2002. He mentioned the designated signatories for each of the GMS members. He thanked all EGP/ EPF participants, concerned ministries/ agencies and consultants for their efforts in drafting and preparing the IGA for signing. He requested everyone's continuous cooperation in expediting the ratification process of the IGA by GMS members, and approval/ adoption of guidelines for the establishment of the RPTCC.

9. He also noted the requirements for the registration of the IGA with the Secretary of the United Nations (Article 102 of UN Charter), which were raised by Cambodian Government. He led discussions on the reasons for IGA registration with the UN. One of the reasons cited was to provide mechanism for dispute resolution. Another reason was to facilitate information sharing, i.e., so other UN member countries could refer to the IGA as a model. He noted that since registration is voluntary and each member needs time to discuss with concerned ministries, it was agreed that when the IGA is presented for ratification in each country, the issue of UN registration could be raised. Thus the issue of registration would be left to the GMS members to decide, at a later date.

Progress and Future Direction of Power Sector Reform in PRC

10. Mr. Qin Zhijun, Division Chief of Base Production Department, State Development Planning Commission, PRC, presented on "Development and Reform of Chinese Power Industry". He cited the remarkable achievements of Chinese power industry, which by 2000 totaled 319 GW capacity (of which 238 GW is thermal) and 1,368 TWh power generation. He noted the strengthening of power networks, through major transmission line projects (Three Gorges, West to East, etc.). Power sources were also optimized, and there was a move towards large power stations, large networks, extra high voltage and automation. He cited the objectives of the Tenth Five- Year Plan, which include deepening structural reform, providing reliable and cheap energy, strengthening power transmission, rehabilitation in urban/ rural areas, promoting hydropower, and developing new/ renewable energy, among others.

11. He cited importance to environmental protection and efforts to rely on clean energy sources. He also noted the west-to-east power transmission and nationwide interconnection to

promote concerted development between the western and eastern regions. He showed a chart on the differences in coal and hydropower reliance between western and eastern regions. He also showed a map of the routes for west-to-east power transmission. He enumerated the goals of reform for the power sector, i.e., separating the power station from the grid, introducing competition, lowering cost, rationalizing the tariff system, proceeding with nationwide interconnection, and setting up power market system. He illustrated the separation of the power plants from the independent grids under government regulation; a map was shown of the various subregion grid corporations. He showed organization of the State Electricity Regulatory Commission.

12. Mr. Thai asked whether there is a power market established in PRC already. Mr. Zhang explained that PRC is currently setting up the reform mechanisms but the power market is not operational yet. Mr. Khaing asked who owns the subregional grid companies, and Mr. Qin replied these are all state firms. Mr. Thai asked about ownership of the load dispatch center; Mr. Zhang replied that dispatch center is combined with the grid company. Mr. Chavalit asked how the private sector could be attracted to the industry. Mr. Zhang explained that there is policy to promote private sector investment in power sources. Mr. Rahman asked about whether the regulator (State Electricity Regulator) has operational control of the dispatch center. Mr. Zhang replied that the subregional grids perform dispatch role and under the control of regulator. Mr. Rahman asked how renewable energy is priced, and Mr. Zhang replied that government subsidizes renewable energy with lower tax and preferential loan interest rates. Mr. Rahman asked about how decommissioning of small thermal plants is carried out. Mr. Qin replied that small thermal plants will be closed down mainly due to environmental and efficiency considerations.

Latest Developments in the Power Sector in Yunnan, PRC

13. Mr. Zhang Yunzhou, Chief of Strategic Planning Department, State Power Corporation of China presented on Yunnan's latest Power Development Plan, covering current situation and program of Yunnan electric power industry. By end of 2001 Yunnan had 8,631 MW capacity of which 5,686MW was hydropower (65.9% of total). Total of 1.4 TWh was exported to Guangdong with capacity of 600 MW. He noted that three power transmission lines totaled 688 km. in length. Diagram of Yunnan grid was shown. Power demand was projected to grow by average yearly rate of 6.6% for 2000- 2005, 6.2% for 2005- 2010, and 4.6% for 2010- 2015. He showed a table on the schedule of hydropower and thermal generation projects, and their capacities. Projected installed capacity of Yunnan would be 27,500 MW by 2015. Yunnan's network would be strengthened to export power to other countries (Thailand, Myanmar) and supply power to eastern provinces, and Mr. Zhang detailed the transmission projects to fulfill this goal. He showed the diagram of Yunnan's power system by 2015. He outlined the plan for grid interconnection with neighboring countries (Myanmar, Lao PDR and Viet Nam).

14. Mr. Khaing asked for details regarding PPA signed between Yunnan Electric Power Group (YEPG) and Myanmar Olympic Company. Dr. Tun however clarified that no confirmation has been made on the said deal between YEPG and Myanmar Government. Mr. Prutichai asked why projected GDP growth was higher than for power demand. Mr. Zhang explained that policies promoting more efficient power utilization called for adjustment in the elasticity of demand for power. Mr. Houmphone requested clarification on the power supply scheme initiated between Yunnan and Lao PDR, and raised the need for government MOU between Lao PDR and PRC prior to development of the Jinghong-Thailand transmission project via Lao PDR. Mr.

Zhang agreed. Mr. Chavalit asked why PRC wanted to sell power from Jinghong earlier. Mr. Zhang replied that this could probably take long time for approval. However, if Thailand wanted to purchase power from Jinghong earlier (from 2013 to 2010/ 2011) then PRC could expedite the process of the Jinghong project. Mr. Prutichai noted however that building transmission lines for this would require much time and huge cost due to the long distance and the presence of forest reserves along the route.

Institutional and Regulatory Issues in Regional Power Market Structures: Selection of Options for the GMS and Worldwide Examples

15. Mr. Jean Pierre Charpentier, World Bank, gave an introduction to the importance of discussing issues pertaining to the options for the power market structure. He introduced the experts (Mr. James Barker, Ms. Fiona Woolf, and Ms. Diane Minogue) who would make the presentations. He proposed a 30-minute session with GMS members later to establish their inputs to the study on options for the GMS power market.

16. Mr. James Barker, WB Consultant noted the need for GMS countries to appreciate the tangible benefits from interconnection. He gave the key ingredients for the power market-infrastructure development, market structure and market rules, institutional/ regulatory frameworks, operating agreements, transmission pricing and mechanism for evolution. He noted that a uniform approach does not readily exist and that there is a need to understand the objectives and concerns of each country to develop specific actions and common set of decision drivers. He gave three general areas of discussion: the general investment environment; development of specific projects; and development of uniform procedures and coordination processes. He enumerated expected benefits of cross-border power trade and noted the various ways to mitigate investors' risks (special government measures, ease of obtaining permits, international arbitration).

17. Mr. Barker mentioned the need to place the GMS countries as to where they are in terms of regulatory risk (independence of regulator, scope of regulation, possibility of regional regulation). He added it would help to learn which entities are in charge of project development and what are the obstacles to this. In the development of uniform rules, he noted it was difficult to agree on the detail and there was need for GMS members to contribute resources to develop, and assume ownership over common rules/ procedures. On planning he noted the concerns over entities responsible for planning, mode for sharing information, and grid code for use as model. He cited the need for adopting a uniform approach in various key areas. These include open access to transmission and interconnector capacity, transmission pricing, import/ export charges, payment guarantees, and rules for bilateral transactions.

18. *US Market.* Mr. Barker provided general background on the development of transmission in the US, characterized by vertically integrated utilities developed on a local basis, extensive expansion prior to 1975 and extensive congestion. Ms. Woolf noted that there was little investment in transmission due to poor returns given the heavy regulation of the industry. Mr. Barker gave specific examples of transmission development in the US. He said markets and trading in the US developed out of bilateral contracts with no regional commercial rules. He cited examples of centrally administered markets such as the New England pool. Following the 1965 Northeast blackout, regional reliability coordination was developed in the US.

19. *Central America.* Ms. Fiona Woolf, WB Consultant, provided a background on the SIEPAC (Sistema de Interconexion Electrica de los Paises de America Central) which developed the wholesale electricity market in the region, and the MER (Regional Electricity Market) under which international power transactions in the region are performed. She provided the MER objectives and the design guidelines, which called for setting up institutions from the start while respecting countries' autonomy. She listed the objectives of the system regulator, the CRIE (Comision Regional de Interconexion Electrica) and the market operator, EOR (Ente Operador Regional). The latter was tasked to perform commercial transactions among market agents, among others. She gave the functions of other key regional power institutions, the owners of the Regional Transmission Grid (RTR). Under the set-up, each country would decide on who could participate in the regional market. She said that the technical, commercial operations and transmission codes govern technical/ commercial administration of the MER. She added that local operators and EOR perform economic operations through coordination of dispatch and other activities, and that contract and spot trading are both allowed. She discussed the fairly developed regional database and the regional transmission rate system, designed for planned expansions and for risk expansions/ existing equipment.

20. Ms. Minogue asked whether the desire to have a market was the driver to the development of transmission lines. Ms. Woolf replied that it was instead the transmission projects that acted as driver to the development of the regional market, given the proximity to each other, of the national markets and lines. Mr. Rahman asked what the lessons for GMS were from the MER example. Ms. Woolf said the MER countries have realized that early harmonization could have prevented current problems that have become difficult to solve, since national systems are now more entrenched. Mr. Charpentier asked about the usefulness of the treaties among members of the market, and Ms. Woolf said these have been very useful as far as arbitration and dispute resolution are concerned. Mr. Barker showed charts detailing energy broker and bilateral transactions.

21. Ms. Woolf went over the items in the questionnaire and explained the uses of the information from the questionnaire, i.e. to provide input for the study on options for the GMS regional power market. She left it to the GMS members to decide on the means and schedule of submission of responses. Mr. Charpentier discussed the itinerary of the World Bank mission to the GMS countries for the meeting between the WB mission and GMS country focal persons regarding the study of market options.

Draft RPTCC Guidelines

22. During the review of the guidelines, the members discussed the issue of representation to the RPTCC. The members were in agreement that the representatives to be appointed to the RPTCC need to be very high level, responsible for policy decision-making within their own organization, given the policy issues and need to commit resources.

Report and Adoption of Proceedings of EGP-7 and EGP-8

23. Mr. Prutichai reported on the EGP-7 and EGP-8 meetings, which were held since the last EPF meeting in Hanoi in December 2001. The EGP-7 meeting took place in Chiang Mai from 29-30 May 2002. Its main tasks were to discuss the guidelines for the establishment of the RPTCC, to review the progress of signing of the IGA and to review the second draft of the

Master Plan study. Under the latter, it was agreed to adopt scenario 2B, and Mr. Prutichai gave a brief of the results of the study carried out by the consultant.

24. He also reported on the results of the EGP-8 meeting held the day before. The EGP-8 meeting, he noted, further discussed the establishment of the RPTCC. He reported on the country presentations on developments in the power sector in the GMS countries. The meeting took note of the progress of power sector development of GMS countries. Mr. Prutichai submitted for consideration of the body, the completed study on the Indicative Master Plan on Power Interconnection in the GMS and the proceedings of the EGP-7 and EGP-8 meetings. The meeting adopted the Master Plan study and the proceedings of the EGP-7 and EGP-8 meetings.

III Closing Session

Consideration and Adoption of Proceedings

25. EPF members reviewed the draft minutes and after incorporation of the suggested changes, the body therefore approved the minutes of the EPF-9 meeting.

26. Venue of the next EPF meeting was discussed. Given that only PRC and Cambodia have not hosted twice, (and Cambodia was proposed as host of the next EGP meeting), it was proposed that PRC would host the next EPF meeting, subject to concurrence by higher PRC authorities.

Closing Remarks

27. Mr. Rahman stated that the EGP-8 and EPF-9 meetings succeeded in charting the road map towards the establishment of the GMS power market. He noted that the road ahead would not be easy but the efforts of GMS members would help us reach our objectives surely and steadily.

28. H.E. U Myo Myint thanked all delegates for their valuable inputs and contributions to the two meetings, and thanked ADB for support to regional economic cooperation especially in the power sector. He noted that as a result of the efforts of the EGP and EPF, the IGA would be signed during the GMS Summit in November. He said this is a great step towards materialization of power interconnection and trade in the GMS and a landmark of cooperation in the power sector. He cited the important discussions regarding the RPTCC guidelines, implementation arrangements for the PTOA and finalization of the Master Plan report. He added however that these are just preparatory works requiring more work in the future. He thanked all staff from ADB, Sedona Hotel and MOEP for their support for convening of the meetings in Yangon.