

Summary of Discussions
Fourth Meeting of the Planning Working Group (PWG-4) of the
Regional Power Trade Coordination Committee (RPTCC)
Da Nang, Viet Nam, 20 November 2007

1. **Objectives.** The PWG-4 meeting was held to: (i) take stock of the progress and confirm the final/ interim reports of priority RPTCC studies and activities, namely the studies on performance standards and transmission regulation, training programs, power sector database and website, and the regional power master plan; (ii) provide updates of each GMS country's power generation and transmission development plans; and (iii) discuss the draft GMS MOU on the road map for power trade development, for possible signing at the Third GMS Summit in Vientiane, Lao PDR in March 2008.

2. The PWG-4 meeting was held in Da Nang, Viet Nam and co-organized by the Electricity Regulatory Authority of Viet Nam (ERAV) and the Asian Development Bank (ADB). It was attended by PWG nominees of the six GMS member countries, as well as by representatives of ADB, Agence Francaise de Developpement (AFD), Japan International Cooperation Agency (JICA), Swedish International Development Cooperation Agency (SIDA), World Bank (WB) and Soluziona. Attached is the agenda and program of the meeting (Annex 1) and the list of PWG-4 participants (Annex 2).

Session I: Opening Session

3. Mr. Pham Manh Thang, Director General, ERAV, welcomed the participants and noted the good progress achieved for the priority RPTCC studies and activities that are being coordinated by the PWG. He gave an overview of the objectives of the PWG-4 meeting, which is to advance the progress of RPTCC studies and activities and to consider a possible MOU on the power trade road map for signing at the Third GMS Summit in Vientiane next year. He thanked ADB for its support and expressed his wish for the success of the meeting.

4. Mr. Anthony Jude, Principal Energy Specialist, Infrastructure Division, Southeast Asia Department (SEID), ADB, welcomed the participants and thanked the host, ERAV, for the hospitality and excellent meeting arrangements. He explained the purpose of the meeting, which is to take stock of the status and review the reports of the priority PWG studies and activities. He said a summary of the meeting's recommendations, covering revised activities, milestones and timelines, would be reviewed for confirmation at the Focal Group meeting. He noted that the meeting will also consider the preparation of the MOU on the power trade road map, for possible signing at the Third GMS Summit next year. He cited the contributions of AFD, SIDA and the WB in advancing the work of the RPTCC.

Session II: Discussion on Priority PWG Studies (Performance Standards, Transmission Regulation, Training Programs)

5. Soluziona (Mr. Karacsonyi) first provided an overview of the current activities and next steps for the main components of RETA 6304, consisting of the development of the indicative master plan, provision of support to the FG and PWG, capacity building and database development.

6. **Performance Standards Study.** Soluziona (Mr. Castrillo) provided a recap of the previous activities under the study and discussed the proposed methodology of the

Performance Standards Workshop. He presented the issues with respect to the subsequent work required in the development of performance standards, particularly on the roles of the consultants/ PWG.

7. **Discussions.** The PWG supported Option 2 which involves the consultant developing the preliminary standards and validating such standards through a workshop. It was suggested that the consultant provide the timeline and required operational support for turnover to the PWG. Under Option 1 (status quo) the PWG is tasked to carry out the study. ADB noted that Option 2 would have implications on TA resources. The consultant was asked to consolidate the findings on performance standards, and to use Thailand's and PRC's standards as basis for the preliminary standards.

8. Mr. Karacsonyi clarified the need for performance standards, which will emanate from the grid and settlement code to be adopted to ensure good transmission performance in the process of power trade.

9. **Transmission Regulation Study.** Soluziona (Mr. Karacsonyi) indicated that this study was deferred, as priority was given to the performance standards study based on the technical meeting held in Bangkok in March 2007.

10. **Training Program: Lessons Learned.** Soluziona (Mr. Castrillo) reviewed the various trainings conducted and derived the important lessons from these, and noted that the differences in capacity and geography make some topics too advanced for some countries. He presented some suggested programs based on Cambodia's and Myanmar's inputs.

11. **Discussions.** ADB proposed to discuss with the consultant later on the possible arrangements for meeting some of the training requested by the countries. WB said it would also look into existing complementary training programs that would benefit the GMS countries. WB will advise ADB if resources are available and agree upon the scope of training following discussions with the GMS countries.

Session III: Regional Power Database/ ICT Strategy

12. **Status of Work on Database Development.** Soluziona (Mr. Castrillo) gave the progress updates of the work on database and website implementation. He gave a preview of the database and website by discussing its basic functions and presenting the homepage screen and its sub-pages. He discussed the administration tools and various user profiles, e.g., for the super- and country administrator, and private and public users, and demonstrated navigation of the website and its security features.

13. **Discussions.** Mr. Jude informed of CSG's reservations in hosting the website and database and asked whether any other GMS country would be willing to act as host instead. CSG explained the difficulties of hosting the website within CSG due to security of its own internal website. CSG suggested the hosting of the website within a telecommunications company. This will cost about \$7,000 annually but CSG will pay to maintain this website and ensure the site security, if the GMS members agreed to this suggestion. In view of the need to promote GMS ownership, Mr. Jude said ADB should be the last preference to host the website. The GMS countries agreed to CSG's suggestion.

14. Mr. Castrillo said that the host and super administrator could be different entities. He said the super administrator would coordinate decisions affecting data across countries.

Meanwhile, the country administrator could reflect the needed changes in country data. The PWG member could be the country administrator, who would then assign staff to regularly input and update the data. CSG agreed to host the database/ website hardware with a PRC telecommunications company, and agreed that CSG would act as super administrator tasked with regional database coordination and management.

Session IV: Updates on the Progress of Power Development Plans and Transmission Interconnection Projects (Country presentations, Annex 3)

15. **Cambodia.** Mr. Jona of the Ministry of Industry, Mines and Energy (MIME) updated on Cambodia's power sector institutional structure, strategy and generation/ transmission development progress and plans. He discussed the various transmission lines being developed on BOT basis or with support of various development partners (ADB, WB, NDF, JBIC), and the various hydropower projects that comprise the generation expansion plan. He explained the rural electrification plan, which aims to cover 100% of villages by 2020.

16. Mr. Tun Lean (MIME) clarified that EDC owns 30% of total generation capacity of 194.8 MW in 2007. He also explained the mechanics of the Rural Electrification Fund to subsidize rural electrification enterprise investments. In response to Thailand's query, Mr. Jude explained the policy/ tax regimes related to the Production Sharing Agreement with international oil companies need to be addressed before the development of offshore oil and gas can commence.

17. **Lao PDR.** Mr. Buongnong of the Ministry of Energy and Mines (MEM) presented the status of generation capacity and electrification ratio, and the existing transmission network. He discussed the current and forecast electricity demand and the ongoing and proposed generation projects for both export and domestic use, focusing on projects with cross-border power trade implications. He updated on the progress of hydropower projects located on the mainstream of the Mekong River to be financed by investors from PRC, Thailand and Viet Nam for export.

18. Mr. Daovong (MEM) clarified that studies are ongoing with respect to the projects to be financed by external investors. He said that downstream impacts of these projects would also be looked into.

19. **Myanmar.** U Maung Maung Kyaw of the Ministry of Electric Power (MEP) presented the status of ongoing and future generation and transmission lines, including substation projects, and the foreign investment environment in the power sector. He pointed out that about 25,000 MW hydropower projects are at various stages of development for export to PRC and Thailand. U Tun Naing (MEP) clarified the arrangements for the development of these externally-funded hydropower projects and the marketing of their outputs.

20. **PRC.** Mr. Jin Xiaoming, CSG, provided general information on CSG's power demand, generation and transmission capacity and expansion plans. He provided the progress of various power projects involving CSG cooperation with Cambodia, Lao PDR, Thailand and Viet Nam. He clarified the coverage of the training program with Viet Nam, which involves power system operation.

21. **Thailand.** Mr. Varavoot of the Electricity Generating Authority of Thailand (EGAT) updated on the status of EGAT's installed capacity and the progress of its power development projects, notably the hydropower projects and the required transmission lines to enable power imports from Lao PDR, Cambodia and Myanmar. He discussed the various aspects of the long

term plan, which provides for increasing private sector participation in the sector and sourcing power from renewable sources. He also mentioned Thailand's plans to develop raw coal based generation after 2013 and nuclear power generation (4,000 MW) in 2020-2021.

22. **Viet Nam.** Mr. Nguyen Anh Tuan of Electricity of Viet Nam (EVN) provided the status of power generation and transmission in Viet Nam and discussed the power development plan for 2010-2015 and 2020-2025 based on power demand forecasts. He presented the various hydropower and thermal plants in the pipeline (2006-2015) and the required grid development program to 2025. He explained the expected progression of the electricity market road map.

23. Mr. Tuan clarified that the thermal plants in northern Viet Nam will use largely domestic coal, although coal plants in the South plan to use imported coal.

Session V: Discussion on Strategic Road Map for GMS Power Trade

24. **Draft Road Map for GMS Power Trade.** Ms. Arizu (WB) clarified the need for a power trade road map and presented the objective of stage 1, and the requirements to start and achieve it. She presented the milestones of the stage 1 road map, which include institution and capacity building and website development, which are ongoing under the RPTCC. She noted the milestones for stage 1 power trade, such as the adoption of performance standards and methods for transmission charges, and the activities needed under each milestone. She stressed that the aim is to develop a document with simple rules and procedures to adopt stage 1 of RPTOA, and which would cover among others, coordination protocols and procedures between dispatch centers, data exchange and information sharing, transmission payment and transmission regulation methodologies, etc.

25. Mr. Varavoot presented EGAT's comments on the proposed MOU on the road map. He stressed that the road map should be reviewed based on realistic activities needed for each stage, and that the MOU would have to depend on results of some studies that have not yet been completed. He stressed that progress in bilateral power exchanges can still be realized even without an MOU on the road map. The MOU on the Regional Power Trade Operating Agreement (RPTOA) to Initiate Stage 1 signed in July 2005 was more than adequate and he did not see the necessity of signing another MOU.

26. **Key Elements.** ADB explained that the purpose of signing a MOU on the road map clearly articulates how the GMS countries plan to implement the RPTOA signed in 2005. The MOU spells out how collectively the GMS countries will move from stage 0 to stage 1. The road map is to help track milestones in achieving stage 1 of regional power trade and to assist in preparing for the next stage within this road map. Mr. Haag (SIDA) welcomed a coordinated road map and stressed that development partners like his would like to see an agreement wherein the GMS countries could commit to realizing achievable and concrete goals in the process for power trading. He supported the idea of an MOU that outlined milestones in the process. Ms. Arizu (WB) also supported the idea of signing an MOU on the road map as it demonstrates how the GMS countries will achieve regional power trading. Mr. Karacsonyi (Soluziona) discussed the key tasks included in the draft road map, their relation to RPTCC priority activities and their timing.

27. **Agreements.** The PWG members generally agreed on the importance of a power trade road map. However, Thailand expressed reservations on the need for signing an MOU on the road map. Thailand was concerned about the time constraint to get internal approval for it to sign the MOU by the next GMS Summit in March 2008, because Thailand will have an election

in December 2007. ADB suggested that the draft MOU be further refined and the revised version will be circulated by next week to all PWG members. If needed a meeting in Bangkok can be held by 15 December 2007 to discuss and finalize the MOU.

Session VI: Regional Power Development Master Plan

28. Soluziona (Mr. Karacsonyi) provided a recap of the master plan activities, and explained the methodology using the ORDENA and SDDP models. He presented the assumptions and base case results of the modeling exercise for each country and discussed the results of the sensitivity analysis. He stressed that the master planning exercise resulted in a regional database useful for planning prospective transmission expansions. He suggested future activities to improve the master plan, which include developing a regional costs manual and collecting hydrological information on rivers/ basins with existing or potential hydropower plants.

29. **Discussions.** ADB stressed the importance of the model being able to show the least cost option of the interconnections. Thailand presented some proposed corrections on the input data used for the simulations and requested clarifications on some of the findings of the sensitivity analysis. Thailand also proposed that Soluziona analyze the benefit and cost comparing the “with” the GMS interconnection (base case) and “without” GMS interconnection in terms of fuel saving, energy sharing, etc. Soluziona responded that some differences in input data are negligible while the data assumptions for some other cases would be double checked for accuracy. Viet Nam mentioned that within the next 7-10 years the GMS may not be exporting too much power due to the increased demand in their respective countries. In this context the master plan should use international fuel prices as well as take into account each country’s fuel price policy. PRC suggested for the master plan to consider analysis of needed hydropower scheduling to satisfy future GMS demand and demonstrate the economic benefits of interconnection through reduced generation investments and peak demand shifts. ADB requested the PWG members to submit their comments in writing to Soluziona, copied to ADB by 7 December, for consideration in revising the master plan report. ADB also instructed Soluziona to provide all copies of the reports to AFD, SIDA and WB.

Session VII: Closing Session

30. **Summary of Agreements.** ADB presented a summary of the meeting highlights as follows:

- (i) Performance Standards: The study’s TOR could be reviewed to address the requirements of the countries especially in terms of benchmarking standards for the future power trade operating agreements.
- (ii) Training: More training would be needed by some GMS countries and ADB would discuss with the consultant on the new training programs that would better respond to the countries’ needs. Support from the SIDA TA could be explored for the additional training programs.
- (iii) Database: PRC to host the database within a telecommunications provider, and CSG will act as regional database manager/ coordinator (“super administrator”); hardware would be provided under the TA. The GMS countries would contribute to increasing the time series of the data.
- (iv) Country reports: Provided useful updates on generation and transmission projects and other developments (IPP signings, etc.) critical to building GMS power interconnectivity.

- (v) MOU: ADB will refine and simplify the MOU on the road map and re-circulate it to all PWG members by 29 November 2007. The process of finalizing the MOU on the road map for signing will be discussed in Bangkok on 14 December 2007 at ADB's Thailand Resident Mission. Following agreement on the draft MOU on the road map, the countries will then take measures in securing internal clearances for signing the MOU at the Third GMS Summit (31 March 2008) in Vientiane. If time is not enough in obtaining the internal clearances before the Third GMS Summit, the MOU on the road map may be signed at the next GMS Ministerial Meeting.
- (vi) Master Plan: Extensive comments were provided by the GMS countries, which reflect the need for more clarifications in the report and the usefulness of the exercise; it was agreed that additional comments in writing would be submitted to the consultant by the countries by 7 December 2007.

31. **Consideration and Adoption of Proceedings.** Mr. Jude announced the distribution of the draft summary of proceedings for review by the participants. After the PWG members reviewed the draft summary of proceedings, and after incorporation of suggested changes, the body therefore approved the minutes of the PWG-4 meeting *ad referendum*.

32. **Summary and Closing Remarks.** Mr. Jude thanked the participants and appreciated the contributions and important agreements reached to further advance the priority RPTCC studies and activities. He invited everyone to the welcome dinner to be hosted by ADB later in the evening.