Final Agenda

Component 2
Regional EMP/SDP On-the-Job Training-cum-Field Trip

To be Held in Thakek and Nakai, Khammouane Province, and in Nahin, Borikhamxay Province, Lao PDR

July 5-10, 2010

Objectives of the Regional EMP/SDP Training-cum-Field Trip:

Conduct a Regional Training on the Environmental Management and Monitoring Plan (**EMP**) with emphasis on field work to permit hands-on training and field experience for staff from the Power Ministries, Power Generating and Transmission Organizations/Companies and Environmental Authorities, who are assigned to follow up and monitor the implementation and adequacy of the EMP of power projects as appropriate in the GMS region. The site visits and hands-on job training will take place at two important hydropower projects in the Lao PDR; namely the Nam Theun 2 Hydropower Project (NTPC) and the Theun-Hinboun Power Company (THPC), both situated along the Nam Theun River.

The Nam Theun 2 hydropower project is a 1,070 MW power plant, owned and operated by an international consortium for a 25 year concession period situated in Khammouane Province, Lao PDR. The power is generated by 4 Francis and 2 Pelton units and transmitted from the switchyard along a 500 KVA transmission line to the Mekong River crossing where it connects to an EGAT transmission station in Nakhon Phanom, Thailand. The Commercial Operation Date (COD) of NT2 was achieved on April 30, 2010. The EIA/EMP and the SIA/SDP reports of NT2 are well written and carefully documented. They comply with World Bank and ADB standards, and the EMP/SDP follow the guidelines of the IFIs Performance Standards and the Equator Principles. Thus the EMP represents world “best practices” for environmental protection and conservation, during both the construction and operation phases. The SDP represents world “best practices” for social equity, handling of ethnic minority issues, resettlement, compensation for lost assets, livelihood enhancement, and food security.

The participants will study the EMP and be involved in group discussions designed to familiarize and test their understanding of the EMP:

(1) How was the EMP derived from the evaluation of impacts in the EIA study?

(2) How were mitigation measures selected to reduce serious impacts to acceptable levels and provide adequate treatment to ensure that emissions will meet national environmental standards? Participants will review the tradeoffs studied and their estimated costs and see how the “best solutions” were selected for the EMP;

(3) Were adequate technical and economic evaluations made of the options? Likewise similar discussions will be made to review the SIA and to see how the SDP was derived.

(4) Was public participation involved in the selection of the “best solutions”?

(5) How is public participation used in determining resettlement policy and lost assets compensation levels?
(6) Is the Project Proponent committed to implement these preferred options?

(7) What parameters will be used to monitor and quantify the effectiveness of the committed mitigation and compensation measures?

(8) How were these monitoring programs developed? This is a second important aspect of the EMP/SDP to be included in the training (monitoring).

(9) How does the Project Proponent develop a monitoring program that is adequate and reliable to measure the residual impacts and verify the effectiveness of the implemented mitigation measures?

(10) How does the Project Proponent and the government agencies know if the implemented mitigation measures are adequate to achieve the stated goals? And finally an important skill for the participants is to check whether the costs allocated by the project proponents for monitoring the residual impacts are indeed adequate to cover the extensive monitoring program needed.

(11) Does the proposed monitoring program permit quantification of the results of the mitigation measures (that is are the mitigation measures working as intended)? Participants must understand the need for EMP/SDP monitoring both during the construction and operation phases of the project.

(12) What role in the monitoring process is the responsibility of the government authorities (from both the environment and energy ministries and the power implementing agencies)?

(13) What are the costs of project monitoring by the government?

(14) And how will governments pay for these costs?

The training workshop will cover *all these aspects* of the EMP/SDP.

The Theun-Hinboun Expansion Project (THXP) is the second power project planned to be included in the EMP/SDP training. THXP is a 250 MW expansion of the existing 210 MW run-of-the-river hydropower project on the same Nam Theun River and includes construction of a new 70 meter high dam across the Nam Gnouang, a tributary to the Nam Theun. The dam will create a new reservoir covering 10,500 hectares in area and permit year round production from both the existing and expansion power houses. Waters from the project are discharged into the Nam Hai and Nam Hinboun Rivers, a separate river basin from the Nam Theun. The dam, reservoir, diversion tunnel, and power plant are currently under construction and participants will have an opportunity to see both environmental and social mitigation measures in place and operating during the construction phase. The project proponent and his contractors are likewise being audited and they are required to follow the IFIs Performance Standards and the Equator Principles. This expansion project is in the first year of construction and participants will be able to study the EMP/SDP and see the selected mitigation measures committed to reduce construction phase impacts, see pollution control systems in operation, and verify if emissions are meeting environmental standards. Likewise, they will be able to witness relocation (resettlement activities), livelihood options, pilot training programs, and compensation packages implemented for project affected persons (PAPs) to offset project impacts. This phase of the EMP is quite different from what is occurring now at the Nam Theun 2 project, which is now in the operation phase.

Training Outputs:

Representatives of relevant stakeholders (power utility and government authorities) will have the opportunity to familiarize themselves with both the EMP/SDP documents of NT2 and THXP and understand the links between the EIA and project design to identify mitigation opportunities that are incorporated and built into hydropower projects to avoid, minimize, or remedy adverse social and environmental impacts. The completed NT2 and THXP mitigation measures represent international “best practices” and are designed to reduce residual adverse impacts to acceptable levels and to enhance the environmental and social benefits for all affected persons. Workshop participants will witness whether these projects are or have achieved their EMP/SDP objectives.

(1) Was erosion halted and slopes stabilized and replanted (revegetated) adequately to prevent future erosion from construction sites and project facilities?

(2) Was adequate biomass removed from the reservoir to ensure safe travel, access to fisheries, and good water quality in the reservoir?

(3) Are social mitigation measures adequate? Are PAPs benefiting from their new livelihoods?

(4) Are their living facilities improved and do they have adequate water supply, electricity, and health care?

The EMP/SDP of NT2 are now in the operation phase of the project and monitoring is equally important.

(5) What monitoring role does the government have during the operation phase?

(6) How are PAPs involved in the monitoring process?

(7) What are the EMP/SDP commitments of the project proponents during the operation phase?

(8) And again how does the government cover their monitoring costs?

Participants will thus be able to witness two different sets of "best practices" – one during the construction phase and one during the operation phase. They will also see where problems are being encountered and group discussions will be held to generate solutions and improve the EMP/SDP and their monitoring programs. Participants will thus become familiar with how monitoring is used to improve project outputs of social equity and environmental protection. The EMP/SDP are evolving documents and participants will thus understand that they are *upgraded* as part of the Annual Implementation Plan by the project proponent (and his contractor(s)) as proposed for the next construction or operation year to reflect problems encountered, needed additions or modifications to improve performance or lessen residual impacts, and enhance benefits to PAPs from project activities. The field visits will thus provide government participants with the tools, guidelines, and lessons learned they need to monitor and judge the adequacy of mitigation programs in power development projects.

This Activity includes:

- Implementation of the training program, including preparation of training materials, guidelines, policies and references on Environmental Management and Monitoring Plan (EMP) development, mitigation measures and worldwide "best practices", compensation and resettlement, and EMP budgeting. A portion of the training will include field monitoring of the EMP/SDP, both during construction (THXP) and in the operation phase (NT2) of hydropower projects, including environmental, ecological and social impact monitoring to verify the effectiveness and adequacy of implemented mitigation measures. Training materials to be provided to the staff of power utilities and ministries and environmental authorities;
- Selection of both the Nam Theun 2 Hydropower Project and the Theun-Hinboun Extension Project as case studies; study the EMP/SDP documents and verification in the field during the site visits of compliance, implementation and effectiveness of the EMP/SDP; and to witness the decommissioning and rehabilitation of construction sites at NT2 back to original land use conditions; Questionnaires developed by the trainers will be used to guide participants to key aspects of the EMP, and relevant questions will guide them in seek answers and solutions as demonstrated by the implemented mitigation measures;
- Selection of the Theun-Hinboun Expansion Project as the second case study will permit site inspections of construction mitigation measures and pollution control technologies and "best practices". The THXP is downstream and situated along the same river as the NT2;
- Conduct an immediate evaluation of the training program;
- Publication of training materials;

- Conduct a follow up evaluation to document the actual impact of the training program-cum field trip to the participants.

Participants will travel by air and overland to reach Thakek, the provincial headquarters of Khammouane Province, Lao PDR, on **Sunday July 4th, 2010**.

Accommodations and meeting rooms will be arranged for the training in Thakek. The town is situated along the Mekong River, opposite the town of Nakhon Phanom, Thailand.

(1) Delegates from Cambodia, Myanmar, SR Vietnam and PR China will more easily travel to Vientiane, Lao PDR, where they will board minivans, together with Lao PDR delegates, to travel from Vientiane to Thakek arriving on Sunday late afternoon at the Riveria Hotel.

(2) Delegates from Thailand will travel by air to Savannakhet, Lao PDR and then will be transported by bus to Thakek to arrive on Sunday afternoon at the Riveria Hotel.

The workshop will begin **Monday, July 5th** and last until **Saturday noon, July 10th**.

Delegates from Cambodia, Lao PDR, Myanmar, SR Vietnam and PR China will then depart for a return bus trip to Vientiane Capital City and will be able to return to their home base via Vientiane on Saturday 10th of July in the evening or on Sunday 11th of July 2010. Travel to Suvannakhet or across the Mekong River to Udon Thani and flight back to Bangkok are the alternative return routes for the other delegates (Thailand).

Time	Subject	Expert Proposed
Day 0 - Sunday – July 4, 2010		
Arrival in Thakek, Khammouane Province, Lao PDR		
Participants will travel by air and overland to reach Thakek, the provincial headquarters of Khammouane Province, Lao PDR, on Sunday July 4th, 2010. **Accommodations and meeting rooms will be arranged for the training in Thakek. The town is situated along the Mekong River, opposite the town of Nakhon Phanom, Thailand.** **-1- Delegates from Cambodia, Myanmar, Vietnam and PR China will more easily travel to Vientiane, Lao PDR, where they will board minivans, together with Lao PDR delegates, to travel to Thakek arriving on Sunday late afternoon at the Riveria Hotel.** **-2- Delegates from Thailand will travel from Bangkok to Savannakhet, Lao PDR and then will be transported by bus to Thakek to arrive on Sunday afternoon at the Riveria Hotel.**		

Time	Subject	Expert Proposed
Day 1 - Monday – July 5, 2010		
Introduction to the Environmental Management Plan (EMP)/Social Development Plan (SDP)		
08:00 – 08:30	**Registration**	
08:30 – 09:00	**Training Introduction and Presentation of Trainers and Participants**	Dr. Thierry Lefevre
09:00 – 09:30	**EIA/EMP and SIA/SDP in the Context of Sustainable Development** (25 minutes)	Dr. Richard Frankel Dr. Montri Suwanmontri
	Q & A (5 minutes)	All Participants
09:30 – 10:00	**Review of EMP and SDP including management of both social and environmental impact issues** (25 minutes)	Dr. Richard Frankel Dr. Montri Suwanmontri
	Q & A (5 minutes)	All Participants
10:00 – 10:30	**Coffee Break**	
10:30 – 11:00	**Developing Environmental Mitigation Measures "best practices"** (25 minutes)	Dr. Richard Frankel
	Q & A (5 minutes)	All Participants
11:00 – 11:30	**Developing Social Mitigation and Development Measures** (25 minutes)	Dr. Montri Suwanmontri
	Q & A (5 minutes)	All Participants
11:30 – 12:00	**Presentation of EMP/SDP Case Study #1: Theun-Hinboun Hydropower Expansion Project (THXP)** (25 minutes)	Dr. Richard Frankel Dr. Montri Suwanmontri
	Q & A (5 minutes)	All Participants
12:30 – 13:30	**Lunch**	

13:30 – 15:00	**All Participants sign up for Group Study of the EMP/SDP of the Theun-Hinboun Expansion Project (THXP)** 6 Parallel Groups of 7 participants each (3 groups on EMP and 3 groups on SDP) (Groups discuss Questions posed by the Trainers relating to key impacts and proposed mitigation measures) (90 minutes)	All Participants
15:00 – 15:45	**Group Discussions: Presentation of EMP Case Study: the Theun Hinboun Expansion Project (THXP) and Mitigation Measures for Environmental Impacts** (3 groups on EMP Q & A) (30 minutes)	All Participants Dr. Richard Frankel serving as Moderator
	Q & A (15 minutes)	All Participants
15:45 – 16:15	**Coffee Break**	
16:15 – 17:00	**Group Discussions: Presentation of SDP Case Study: THXP and Mitigation Measures for Social Impacts** (3 groups on SDP Q & A) (30 minutes)	All Participants Dr. Montri Suwanmontri serving as Moderator
	Q & A (15 minutes)	All Participants
17:00 – 17:30	**EMP/SDP Training and Site Visits Explanation** Participants will receive instructions about THXP site visits of Tuesday July 6, where and what to look for, together with Questions to be answered by each group during the field visits (30 minutes)	Dr. Richard Frankel Dr. Montri Suwanmontri

Time	Subject	Expert Proposed
Day 2 – Tuesday – July 6, 2010		
Theun-Hinboun Extension Project: Site Visits and Review of EMP/SDP Implementation Program Nahin, Borikhamxay Province, and Nam Guouang Dam & Reservoir, Khammouane Province		
06:30 – 07:30	**Breakfast at Riveria Hotel**	
07:30-10:00	**Travel to THXP Office, Nahin, Borikhamxay Province** (150 minutes)	
10:00 – 10:30	**Coffee Break**	
10:30 – 11:30	**Review of the Theun-Hinboun Expansion Project: Work Progress, Key Environmental and Social Impacts, Site Visit Agenda** (60 minutes)	**THXP Representative(s)** Dr. Richard Frankel Dr. Montri Suwanmontri
11:30 – 12:30	**Morning Site Visits:** **- TBM Tunnel Operation (Limited Access), Sedimentation Control Facilities** **- Power Plants (Existing and New Expansion Site), View Sedimentation Control Facilities and Tailrace to Regulating Pond** (60 minutes)	All Participants Discussion Led by **THXP Representative(s)** (to be confirmed) Dr. Richard Frankel Dr. Montri Suwanmontri
12:30 – 13:30	**Lunch organized with the help of THPC**	
13:30 – 16:30	**Afternoon Site Visits:** All participants **(1) Downstream channel (along Nam Hai)** **(2) Witness erosion problems along river bank (at bridge) and beyond** **(3) Sanitary Landfill, Leachate Treatment System** **(4) CMC Main Construction Camp and wastewater facilities** **EMP Groups:** **(5) Travel to THXP dam site; see construction works, erosion and sedimentation control facilities; view future reservoir (discuss biomass removal plan)** **SDP Groups:** **(5) Travel to Nong Xong Pilot Resettlement Village; orientation by SED personnel, see resettlement housing, community and household water supply, school ad health facilities; visit forest areas being prepared for rice fields together with supplemental irrigation water** (180 minutes)	All participants Discussion Led by **THXP Representative(s)** (to be confirmed) Dr. Richard Frankel Dr. Montri Suwanmontri
16:30 – 18:00	**Return to THXP** (60 minutes) **Final Q & A with THXP SED Head** (30 minutes)	All Participants Discussion Led by **THXP Representative(s)**
17:30 – 20:00	**Depart THXP and travel back to Riveria Hotel, Thakek (150 minutes)**	
20:00 - 21:00	**Late Buffet Dinner at the Riveria Hotel, Thakek**	

Day 3 – Wednesday – July 7, 2010		
Completion of THXP EMP/SDP Implementation and Monitoring Study		
08:00-09:00	**Group Discussions:** **6 Parallel Groups on THXP Environmental & Social Mitigation Measures: Assessing Adequacy of EMP Implemented Measures and Monitoring Needs** (60 minutes)	All Participants
09:00-09:45	**Presentation and Discussion by Groups** (5 minutes per group) (30 minutes)	All Participants
	Q & A (15 minutes)	All Participants Discussion led by Dr. Richard Frankel Dr. Montri Suwanmontri
09:45-10:30	**Group Discussions: Draft results of site visits and submit report to Workshop Leaders** (45 minutes)	THXP Site Visit Summary by Dr. Richard Frankel Dr. Montri Suwanmontri
10:30-11:00	**Coffee break**	
11:00 –11:30	**Introduction to the EMP/SDP of the Nam Theun 2 Hydropower Project** (30 minutes)	Dr. Richard Frankel and Dr. Montri Suwanmontri
11:30 - 12:00	**Introduction to Group Study of the EMP/SDP of the Nam Theun 2 Hydropower Project (Questions posed by the Trainers relating to monitoring and environmental standards)** (30 minutes)	All Participants
12:00 –13:00	**Lunch**	
13:00 –13:30	**Group Study (continued): Environmental and Social Issues of Significance and Mitigation Measures, Case study using Nam Theun 2 EMP/SDP** (30 minutes)	All Participants
13:30 - 14:30	**Group Presentations on Nam Theun 2 Project Documents: EMP and SDP** (6 Groups at 10 minutes each, including Q & A) (60 minutes)	All Participants Discussions led by Dr. Richard Frankel Dr. Montri Suwanmontri
14:30 - 15:10	**Resettlement, Compensation, Minority Group Issues and Public Participation** (30 minutes)	Dr. Montri Suwanmontri
	Q & A (10 minutes)	All Participants Discussion led by Dr. Montri Suwanmontri
15:10 - 15:30	**Coffee Break**	
15:30 –16:00	**Group Discussion: A Review of the EMP/SDP: Similarities and Differences between the 2 Case Studies** (30 minutes)	All Participants Discussion led by Dr. Richard Frankel Dr. Montri Suwanmontri

16:00 - 17:00	**Group Study: Monitoring of the EMP and SDP and Budget Requirements** (Groups to answer Questions posed by Trainers) (60 minutes)	All Participants
17:00 - 17:30	**Review of EMP/SDP Monitoring Programs and Estimated Budgets using NT2 as Case Study** (30 minutes)	All Participants Discussion led by Dr. Richard Frankel Dr. Montri Suwanmontri

Time	Subject	Expert Proposed
Day 4 - Thursday – July 8, 2010		
Site Visits to the Nam Theun 2 Hydropower Project: EMP/SDP Implementation		
08:00 – 10:00	**Depart Thakek for the Site Headquarters of the Nam Theun Power Company (NTPC)** Enroute visit the downstream channel (entrance route via access road to the downstream channel tunnel) (120 minutes). All participants	
10:00 – 10:30	**Coffee Break**	
10:30 – 11:45	**Orientation and Presentation of the NT2 Hydropower Project by NTPC Engineer and the EMP by the Environmental and Social Manager. Focus on Implementation of Mitigation Measures during Construction Phase.** (60 minutes)	**NT2 Representative(s)** (to be confirmed)
	Q & A (15 minutes)	All participants
11:45 – 12:15	**Review of Site Visits: 3 Groups to cover EMP; 3 Groups to cover SDP as assigned by Trainers** (Questionnaires for site visits given out by Trainers) (30 minutes)	Dr. Richard Frankel Dr. Montri Suwanmontri **NT2 Representative(s)** (to be confirmed)
12:30 – 13:30	**Lunch at RNT organized with the help of NTPC**	
13:30 – 16:30	**NT2 Site Visits:** **(1) Regulating dam and downstream channel** **(2) Gnommalat landfill** **(3) Power plant and switchyard** **(4) Road to Nakai Plateau view saddle dams and erosion control facilities** **(5) Nakai District Offices (meet with Officers and discuss Questions). Q & A Session** Drinks provided in buses (180 minutes)	All participants led by **NT2 Representative(s)** (to be confirmed) and **Trainers**
16:30 – 17:00	**Reporting and Discussion within each Group;** **Fill out Questionnaires and draft site visit findings** (30 minutes)	**Group Discussions**
17:00 – 18:30	**Drive back from Nakai Plateau to Riveria Hotel, Thakek** (90 minutes)	
19:00 – 20:00	**Buffet Dinner at Riveria Hotel**	

Time	Subject	Expert Proposed
Day 5 - Friday – July 9, 2010		
NT2 Site Visits Continued: NT2 EMP Monitoring, Evaluation and Reporting – Conclusions		
07:30 – 09:00	**Depart Thakek for Nakai Plateau** (90 minutes)	
09:00 –12:00	**Continue Site Visits from Nakai Plateau:** **EMP Groups:** **(1) Meet with EMU Representatives and discuss environmental issues of concern to local people** **(2) Visit headrace channel, view reservoir, and water intake** **(3) Drive along saddle dams and Route D to witness erosion controls** **(4) Visit Environmental Quality Laboratory monitoring facilities** **SDP Groups:** **(1) Meet with VFA, visit saw mill facilities and protected forests** **(2) Drive along Road D to resettlement village; visit houses, community facilities, rice planting areas, fishing boats and discuss fish catch with villagers, livelihood options.** (180 minutes)	All participants led by **NTPC Representative(s)** (to be confirmed) Dr. Richard Frankel Dr. Montri Suwanmontri
	Q & A (30 minutes)	All participants
12:00-13:00	**Lunch**	
13:00-14:30	**Return trip to Thakek and Riveria Hotel** (90 minutes)	
14:30 – 15:30	**Groups to assess mitigation measures implemented to minimize Social and Environmental Impacts at Nam Theun 2 (assisted by use of Questionnaires distributed by the Trainers)** (60 minutes)	All Participants
15:30 – 15:45	**Coffee Break**	
15:45 – 16:45	**Group Presentations on Implemented Mitigation Measures and Environmental and Social Monitoring Program** (6 Groups at 10 minutes each) (60 minutes)	All Participants Discussion led by Dr. Richard Frankel Dr. Montri Suwanmontri i
16:45– 17:00	**Groups are required to complete their Questionnaires which cover evaluation comments of NT2 EMP/SDP** (15 minutes)	All participants
17:00 – 17:30	**Monitoring Requirements of the Host Government: Environment Ministry and Power Implementing Agencies. A cross Country Comparison within GMS** **Q & A** (30 minutes)	Dr. Richard Frankel Dr. Montri Suwanmontri i
18:00 – 19:00	**Buffet Dinner at Riveria Hotel, Thakek**	

Time	Subject	Expert Proposed
Day 6 – Saturday – July 10, 2010		
	NT2 EMP/SDP Monitoring Conclusions **Workshop Evaluation and Conclusion**	
08:00 – 09:30	**Group Discussions** **2 Parallel Groups on NT2 EMP Implemented Measures:** **First Group: Discussion on Environmental "Best Practices" and EMP Monitoring.** **Second Group: Discussion on Social "Best Practices" and SDP Monitoring.** **Questions and Comments** (90 minutes)	All Participants led by Group Leaders
09:30-10:00	**Group Presentations and Discussion** (30 minutes)	Group Leaders Discussion led by Trainers
10:00 – 10:30	**Coffee Break**	
10:30 – 11:00	**Evaluation of the Training and Preparation of Recommendations: Plenum Discussion** (30 minutes)	Workshop Summary by Dr. Montri Suwanmontri Dr. Thierry Lefevre
11:00 – 11:30	**Closing Ceremony and Presentation of Diplomas to Workshop Participants** (30 minutes)	Dr. Montri Suwanmontri Dr. Thierry Lefevre
11:30 – 12:30	**Lunch**	
13:00	**-1- Bus departs Thakek for Vientiane. Expected arrival time in Vientiane Capital City 17:00 hrs. Continuing flights back to home country (Cambodia, Myanmar, SR Vietnam and PR China).** **-2- Alternative departure by bus to Savannakhet or by boat crossing over the Mekong River and by bus to Udon Thani airport, and return flights to Bangkok.**	