

December 7, 2004

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Dear Ms. Imhof, Khun Witoon, and Ms. Lawrence,

***Lao PDR: Nam Theun 2 Hydropower Project
Economics Interim Summary Report***

Thank you for your letter to Mr. Kassum dated November 11, 2004, in which you express concern about the 'Nam Theun 2 Project Economics Interim Summary Report'. Pending issues related to this analysis were discussed at the international stakeholders workshops in August and September, where the paper was first presented, and again at the follow-up meeting organized by the World Bank in Bangkok on November 5. We regret that you did not take up our invitation to attend the follow-up meeting in particular, as your questions would have contributed to the detailed discussion that took place.

The economic analysis of the proposed Nam Theun 2 project is currently being finalized; once completed, the analysis will be made publicly available. Until then, I trust that the following responses will address the technical and methodological issues you raise.

- 1 Analysis of demand-side management and renewable energy potential in Thailand. The Bank has reviewed the study it commissioned to examine these issues and has commented on a number of the paper's basic assumptions and conclusions. The Bank expects the author to take these comments into account in

revising the report. In addition, the author has now agreed that we can attribute the report to him, which clears the way for eventual release of the document once we are satisfied that it is technically sound. We expect to receive the report in December.

2. Conclusions from least-cost analysis and cost-risk analysis. Because the paper is an interim report, its conclusions are provisional and should be viewed as such until it is finalized based on updated assessments of the environmental and social impacts of the proposed project, the final cost of the head construction contract, and financial and other charges. The current version of the economic analysis includes estimates of these items. Once these estimated costs are finalized they will be incorporated into a revision of the economic analysis. We expect that to be done in the course of the next several weeks.
3. Cost of power losses at the Theun Hinboun dam. As explained in reply to similar questions raised at the international stakeholder workshops and the follow-up meeting in Bangkok on November 5, the cost of the 15 percent reduction in power generation by the Theun Hinboun dam as a result of Nam Theun 2 has indeed been factored into the analysis of the economic cost of Nam Theun 2. Moreover, the economic analysis undertaken for the Theun Hinboun project itself anticipated this reduction in energy sales.
4. Probabilities of occurrence and levels of cost overruns. As footnoted on page 10 of the interim report, there is a less than 25 percent probability that actual costs could deviate by more than 30 percent above or below the expected costs. This assumption is based on the study by Bacon *et al*, which identified two sources of estimating error for the construction costs of power generation projects. First, project cost estimates may be generally biased towards underestimation or overestimation, in that the mean of the estimated costs for a group of projects differs significantly from the mean of the actual costs for this group. Second, even when such typical project bias is allowed for, estimates are still subject to uncertainty, in which the relationship between estimated and actual values shows a large variation around their mean values.

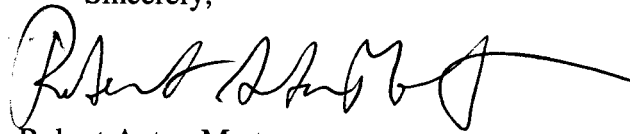
For Nam Theun 2, zero general bias (the first kind of bias) was assumed because it was considered that the structuring and incentive arrangements of the Power Purchase Agreement for NT2 would eliminate this bias. The basis for this assumption was that a privately financed project subject to a firmly contracted output price—as in the case of Nam Theun 2—would include much stronger incentives to contain construction costs than existed under the public financing arrangements used for the group of projects analysed in the study. Hence, the probability distribution used for Nam Theun 2 reflects only the second source of bias and is based on the regression model developed for hydropower projects in the study. Because this distribution is symmetrical about the mean cost estimate, there is a 25 percent probability of 30 percent overrun of Nam Theun 2 capital

cost as well as a 25 percent probability of 30 percent cost underrun. This probability distribution is firmly based on historical evidence.

5. Risk to revenues of Lao PDR. The purpose of section C of the interim report was to show the structure of the base-case distribution in order to address the question of whether the returns to Lao PDR could be considered fair and reasonable. It was a major and original contribution to the analysis, and brought much clarity to the issue. As you rightly point out, and as we are well aware, there are risks to these returns. Colleagues in the Project Finance Group are currently undertaking the financial modelling needed to evaluate these risks. The results of the financial analysis are expected to be made available once they have been completed.

With kind regards.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robert Anton Mertz', with a long horizontal flourish extending to the right.

Robert Anton Mertz
NT2 Project Manager