

**INTERNATIONAL RIVERS NETWORK ▪ TERRA ▪  
ENVIRONMENTAL DEFENSE**

VIA FAX

11 November 2004

Mr. Jemal-ud-din Kassum  
Vice President, East Asia and the Pacific Region  
The World Bank  
1818 H Street NW  
Washington DC 20433

Dear Mr. Kassum,

We are writing to express concern about the recently released “Nam Theun 2 Project Economics Interim Summary Report.” Due to a number of problems and omissions, the report’s findings appear biased in favor of the project. This letter highlights some of our larger concerns with the analysis, including the apparent overestimation of energy needs (given recent findings on potential demand-side management), use of outdated/incomplete cost data, omission of significant costs, and application of unsupported risk assumptions. Moreover, as the Nam Theun 2 project is often promoted for its potential poverty reduction benefits in Laos, it is surprising to find no analysis of how earnings to the Government of Laos might be affected by various project risks. It is not sufficient for the report to simply conclude that “the distribution of returns between GoL and the other sponsors seems reasonable” without discussing risks.

Our concerns are described in more detail below. It should be noted, however, that our comments have been limited by the report’s lack of detailed information on the development of key estimates. *We request an annex to the report that provides greater transparency of calculations (e.g. spreadsheets) showing the magnitude and year-by-year timing of cost and benefit estimates.* Such information makes it possible to better assess the sensitivity of various assumptions and factors. With this limitation in mind, we offer the following initial comments for consideration.

**1. Energy demand forecasts do not reflect recent findings of additional potential DSM/EE, as reported in a study prepared for the World Bank.<sup>1</sup>**

In response to concerns raised by Thai NGOs about Thailand’s need for the power from Nam Theun 2, the World Bank commissioned a report looking at energy conservation,

---

<sup>1</sup> “Nam Theun 2 Hydropower Project (NT2): Impact of Energy Conservation, DSM and Renewable Energy Generation on EGAT’s Power Development Plan (PDP)”, prepared for the World Bank, 28 August 2004.

demand side management and renewable energy potential in Thailand. The report was completed on 28 August 2004, yet has not been publicly released. Nevertheless, we have obtained a copy of the report, which concludes that Thailand has the potential for “nearly 2,000MW of additional, achievable and cost-effective DSM and renewable energy resources that are not accounted for in the January 2004 load forecast” (3,639MW compared to 1,649MW in the January 2004 forecast). Moreover, the total weighted average cost of supply for DSM/EE and RE resources is estimated to be 25 percent less than the cost of NT2 power. If these findings are correct, it means that Thai consumers will be paying 25% more for power from Nam Theun 2 than they would pay for implementing demand side management measures and investing in renewable energy resources. It also means that Nam Theun 2 does not comply with World Bank guidelines on the economic evaluation of power projects, which stipulate that the “Bank finances only those supply facilities and demand-management measures that help meet economically efficient demand at the least economic cost.”

- When will the World Bank release this study?
- Will the findings of the study be incorporated into future least cost analyses of Thailand’s future energy needs? If not, why not?

**2. The report’s conclusion that “NT2 is economic” is premature. The economic least-cost analysis and cost-risk analysis depend on outdated and incomplete cost information.**

The Interim report notes that: (i) modeling for economic least-cost analysis “remains to be updated” (p.7, footnote 8); (ii) risk analysis “draws on 2003 cost assumptions now outdated” (p. 8, footnote 12); and (iii) some environmental and social (E&S) impacts “are still being assessed in the studies nearing completion.” Moreover, E&S costs in the report reflect those the project sponsors are *committed to finance*, not the actual cost of E&S impacts.

- When will the cost estimates for the head construction contract and the environmental and social impacts be finalized and when will a new report be released that incorporates these updated costs?

**3. The economic cost of power losses at the Theun-Hinboun dam needs to be included as a cost of the Nam Theun 2 project.**

“Analysis of [Nam Theun 2] Project impact on the Theun Hinboun project indicates that generation of energy by the Theun Hinboun power station will be reduced by just over 15 percent compared with pre-Nam Theun 2 Project generation” (EAMP, p. 31). Such a power loss (about 250 GWh/yr) is an economic cost of the Nam Theun 2 project. It should be incorporated in the analysis of project economics. This is the case even if the loss was planned earlier as part of regional power development.

**4. The assumption of a 25 percent probability of 30 percent Nam Theun 2 capital cost savings has no basis. It certainly is not supported by historical evidence.**

The selection of appropriate “probabilities of occurrence” for the cost-risk analysis is justified based on “a combination of experience, judgment, and – when available – historical evidence, and uncertainty remains about the values adopted.”<sup>2</sup> Two studies are cited as supporting the cost-risk assumptions – Bacon *et al.* (1996) and “World Bank internal research.”

Findings by Bacon *et al.* do not support the assumption that 25 percent of hydropower projects achieve 30 percent cost savings. For the 66 hydropower projects reviewed, large cost overruns were the norm with only a few instances of cost savings. On average, projects experienced 27 percent cost overruns, with a 38 percent standard deviation (around this mean of 127 percent). Thus, if “historical evidence” is truly a guide, risk analysis should assume Nam Theun 2 base-case costs are 27 percent higher than what is currently estimated, and then examine the probability of project costs within the 38 percent standard deviation (65 percent cost overruns to 11 percent cost savings).

If “World Bank internal research” provides support for the assumption of a 25 percent probability of 30 percent capital cost savings, then it should be made public for review. At the very least, the Interim report should discuss and attempt to defend the basis for an assumption that runs so counter to historical experience, especially since the assumption plays such a large role in making project risks look minimal.

**5. No analysis is provided on the risks to projected Government of Laos (GoL) earnings from the Nam Theun 2 project.**

The Nam Theun 2 project is often promoted as providing substantial returns to Laos (that could be used for poverty reduction purposes). The Interim report estimates that the present value of returns from the Nam Theun 2 project to GoL will be about \$260 million. While the report acknowledges that the bulk of these earnings occur later in the project period, there is no analysis of how this revenue might be affected by various project risks. Of particular interest are the potential impacts of cost overruns, delays, inflation, and reduced power generation due to hydrological risks and potential sedimentation problems. As each of these factors may have the potential to substantially reduce GoL returns, a thorough analysis of risks to GoL earnings should be conducted.

---

<sup>2</sup> Vernstrom, p. 52. The Interim report’s cost-risk analysis is largely based on Vernstrom, R. (June 2004), “Nam Theun 2 Hydro Power Project: Regional Economic Least-Cost Analysis – Draft Final Report”, report to the World Bank.

We look forward to receiving your answers to the above questions, and to our concerns being meaningfully addressed as the process of revision for this report goes forward.

Sincerely,

A handwritten signature in black ink, appearing to read 'Aviva Imhof', on a light blue background.

Aviva Imhof  
Director, East and Southeast Asia Program  
International Rivers Network, USA  
Fax: +1-510-848-1008

A handwritten signature in blue ink, appearing to read 'Witoon P. Charoen'.

Witoon Permpongsacharoen  
Director  
TERRA, Thailand  
Fax: + 66 2 691 0714

A handwritten signature in black ink, appearing to read 'Shannon Lawrence', on a light blue background.

Shannon Lawrence  
International Policy Analyst  
Environmental Defense, USA  
Fax: +1-202-234-6049