

Board Meeting on Nam Theun 2 Project:  
**Briefing Summary**

November 22, 2010

---

**Introduction**

The World Bank and Asian Development Bank (ADB) circulated a written Update on project progress to their respective Boards on July 7<sup>th</sup>, 2010. This World Bank Board meeting represents an opportunity to discuss that Update, as well as to present any further progress on project implementation since July.

This briefing touches on Commercial Operations and Revenue Management; the Management of Social and Environmental issues on the Plateau, the Downstream areas, and in the Watershed; the recent visit by President Zoellick; and concludes with ongoing Monitoring, Oversight and Supervision efforts.

**Project Background**

Nam Theun 2 (NT2) is 1,070MW hydropower and development project in Lao PDR. It is a US\$ 1.3 billion build, operate and transfer project managed by the Nam Theun 2 Power Company (NTPC) for a 5 year construction period and a 25 year operations period.

The project aims to provide around US\$2 billion in revenues to the Lao Government for priority poverty reduction and environmental programs through the sale of electricity to Thailand.

The NT2 projects (a US\$20m IDA Grant; an IDA Guarantee; and a MIGA Guarantee) were approved by the Board in March 2005 following a rigorous and lengthy preparation process. It was the World Bank's first major investment in hydropower after the World Commission on Dams and the Bank's new water strategy of 2003. NT2 is now in full commercial operation, and a number of the key environmental and social programs were deliberately designed to be longer-term: the Bank's project closing date is only in 2017. NT2 remains a very closely scrutinized project: by Government; by the World Bank and other international financial institutions engaged in the project; by the numerous formal oversight and monitoring bodies; as well as by some civil society organizations.

## Commercial Operations are generating Revenues for Poverty Reduction

- **Commercial Operations Date** (COD) was declared on April 30, 2010. COD is a legal determination between EGAT as the power purchaser, and the NTPC as the power supplier, and marks the point at which the Power Purchase Agreement comes into effect. Practically, it is the date from which EGAT pays the full price for electricity it receives; NTPC faces the full range of legal obligations with respect to ongoing power supply; and from which the project formally enters its 25 year operations phase.
- Residual **construction and contractual issues** are gradually being finalised. Since the last Update in July, the Head Contractor has addressed some technical issues with one of the two Pelton Units (for the Lao grid), and a Take Over Certificate was issued for this unit in mid September. Various contractual matters between the Head Contractor and NTPC are gradually being resolved.
- **Government Revenues from electricity sales** to Thailand have amounted to around USD \$5.6 million during the last Lao financial year (to end September), and are being budgeted at around USD \$10 million for the coming financial year. They will average around USD \$80 million per annum over the 25 year concession period. So far, approximately USD \$2 million has been channeled into spending on education in poor districts; USD \$1.7 million has been spent on rural roads; USD \$1 million has been spent on public health projects; with the remainder of the funds being used for rural electrification and environmental protection. The World Bank is working closely with Government on this program as part of a broader public financial management strengthening program.

## Environmental and Social Programs continue in the Operations Phase

*The resettlement program has delivered very positive initial results and is now focused on making new livelihoods sustainable*

- Socioeconomic monitoring shows that **resettler income is clearly above baseline income levels** (see July Board Update). However, there is considerable variation in incomes across villages, households, and time. The key challenge is to ensure that new livelihoods are sustainable. The livelihood improvement targets (representing a significant increase over baseline income levels) in the Concession Agreement (CA) are due to be measured in 2013 in order to judge whether the contractual Resettlement Implementation Period can come to an end. The Panel of Experts also has a role in determining the end of the Resettlement Implementation Period.
- A **safeguard compliant package of both permanent and interim compensation** and support was provided to all resettler households several years ago. Thus, all resettlement households have received compensation that goes beyond what they lost due to the project.

The Board Update in July noted some ongoing items of compensation and entitlement, the current status of which is as follows:

- In addition to the standard compensation package for all resettlers, the CA provided for additional compensation for those who had lost ***fruit trees and paddy fields***. Compensation for these items was completed in early November 2010, except for outstanding cases where there is a dispute over the amount or there has been a change of domestic circumstances, such as death, divorce or people moving out of the area. A process is underway to resolve these cases.
- Compensation for ***buffalo*** that died due to project related impacts remains under discussion between the affected communities, local government, and NTPC. Money has been set aside for this compensation, and will be paid to the relevant villagers as soon as eligibility and numbers have been finalized.
- ***Irrigation infrastructure*** in all villages has now been completed. Complementary gully dams to improve the water table will be constructed during the next reservoir drawdown, and the project is working with villagers to support the operation of Water User Groups.
- The ***Village Forestry Association*** paid another dividend averaging US\$150 per household in October. Effectively protecting the forest resources and strengthening the capacity of the VFA remain key priorities for the project as VFA dividends are an important long-term income stream for all resettlers, particularly for vulnerable families with limited labor.
- All parameters of ***reservoir water quality*** are closely monitored and are currently within applicable standards. NTPC has begun to disclose some water quality monitoring data on its public website.
- ***Fish*** stocks remain robust, providing resettler households with a readily available source of income and consumption. Daily fish catch monitoring is undertaken, and fish species remain reasonably diverse, although some have experienced reductions. The main priority now is to strengthen the enforcement of fisheries regulations on the reservoir, a task that involves both affected communities and local government. Institutional capacity building for local authorities will be critical to ensuring better protection of the fishery resources.

*Xe Bang Fai downstream impacts are in line with or less than levels anticipated; close monitoring is in place*

- The onset of commercial operations brings with it significant new flows of water into the Xe Bang Fai river. A combination of the timing of COD, the reasonable quality of water released, and the effective downstream infrastructure has meant that ***downstream impacts have so far been in line with or less than those anticipated***. However, it is likely that impacts will continue to evolve over the medium-term and need to be closely monitored. To date:

- Reviews by oversight agencies, including a World Bank consultant, show that **erosion** has been limited to naturally pre-occurring patterns;
- The 2010 wet season has been atypical with few rainfall peaks, and there has been minimal **flooding** along the Xe Bang Fai. There was a natural flood event in early October, when NTPC implemented its flood related protocols and ceased generation for several days in order to avoid exacerbating the natural flood cycle;
- The **quality of water** released into the Xe Bang Fai meets all national guidelines, and is consistent with international standards. Towards the end of the dry season, increased flows led to an increase in total suspended solids (but within guidelines), while in the wet season there were no major differences in water quality in comparison to previous years. Tests in the downstream channel confirm that aeration structures are effective in increasing dissolved oxygen in the water;
- Impacts on **fish-catch** have varied along the river. Mainstream catches have been reduced along parts of the Xe Bang Fai in the dry season, with a stronger decrease near the Downstream Channel confluence. Meanwhile windfall fisheries (greater catches) have been reported in some tributaries and wetlands. There are still no fish kills reported.
- The downstream program has been under implementation for almost five years. Since the last Update:
  - The **riverbank garden compensation** process for 3,100 eligible households is complete, and the project is now working through the grievances that have been filed (related to inclusion in the program, amounts of compensation etc.)
  - The **skin irritation** among some Xe Bang Fai residents noted in the Board Update continues to be monitored and investigated. Incidence declined during the rainy season, from a peak of 4-5% of riparian residents at the end of May to zero cases by the end of October. Some cases have been discovered upstream of the Xe Bang Fai in areas where the problem is clearly unrelated to NT2 operations. Investigations supported by the Government and international health experts continue, although they are currently constrained by a lack of active cases.
  - All **boreholes** planned for riparian villages have been provided. A monitoring and maintenance process is in place to deal with mechanical or water quality problems as they arise. To address groundwater quality problems, sand filters are being installed where required as a way of reducing naturally-occurring high levels of iron, while replacement boreholes are drilled where turbidity or salinity are serious issues.

### *Watershed*

- Balancing the conservation and socioeconomic development needs in the Watershed will remain a key long-term challenge for NT2. There has been important progress in improving

conservation and development measures in the Watershed, and strengthening the institutional capacity of the Watershed Management Protection Authority is an ongoing process.

- The July Board Update noted the need to strengthen the authorizing environment for Watershed protection, and Government is currently finalizing a *new Prime Minister's Decree* to this end.

### The NT2 project continues to be very closely monitored

- The Environmental and Social Panel of Experts (POE) recently finished its 17<sup>th</sup> visit to the project areas since 1997, and will release its report in the coming weeks. The Dam Safety Review Panel, GOL Engineer, and the Lenders Technical Advisors have also recently finished *oversight visits*.
- World Bank *President Robert B. Zoellick* visited Lao PDR on October 24-25, 2010, and included a site visit to the NT2 project in his itinerary. Mr. Zoellick visited the Watershed, Resettlement areas, and the power station, and flew over the downstream area. Mr. Zoellick emphasized that NT2 is an example of how hydropower can help support development in an economically, environmentally and socially sustainable way, and that the Lao Government should look for ways to apply lessons learned from NT2 to other hydropower projects in the country. Mr. Zoellick also noted that some of the lessons from NT2 should be about how Governments, private developers and the World Bank could work together to achieve similar quality results but more simply and efficiently.
- Mr. Zoellick emphasized that while NT2 has already achieved impressive results, *there is still much to be done*, especially in securing improved livelihoods on the Plateau, strengthening watershed protection and enforcement, and establishing stronger regulatory structures. He confirmed to the Government and NTPC that the World Bank would stay closely involved in the implementation of the project in the coming years.
- NT2 *implementation to date* has proceeded satisfactorily, but the ultimate success of the Project will only be apparent when the full set of environmental and social programs has been implemented and the results measured. Although some short-term impacts are to be expected, the Bank is determined to deliver sustained poverty reduction and development benefits in the long term. The World Bank and ADB remain committed to working closely with the Government, NTPC and communities to ensure that project obligations are met and that people in the project area continue to benefit from NT2.
- The *formal inauguration ceremony* of the NT2 project will be held on December 9, 2010. Given the President's recent visit to the project, the World Bank will be represented by Sri Mulyani Indrawati, Managing Director.