

# PPP Workshop: Lessons from Asian Experience

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## The Nam Theun 2 Hydroelectric Power Project (Lao PDR)

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## PPP Workshop: Lessons from Asian Experience

### 1. Introduction

- Largest: foreign investment in Laos; Cross-border power project in Asia and; internationally financed IPP in Asia since 1997
- Is a trans-basin scheme diverting the Nam Theun River into a 450 km<sup>2</sup> reservoir, over a 350m escarpment to a 1,070MW powerhouse and then a 27 km<sup>2</sup> downstream channel to the Xe Ban Fai and Mekong Rivers.
- 995 MW is reserved for export via purpose built 500kV lines to Thailand. 75MW is reserved for domestic supply.
- Is a BOOT scheme between GOL and Nam Theun 2 Power Company Limited (NTPC) under a 31 year concession, 6 years for construction and 25 years of operation.



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### 1. Introduction (cont...)

- NTPC is incorporated in Laos;
- NTPC is owned
  - 35% by EDF International
  - 25% by Electricity Generational Public Company (EGCO) of Thailand,
  - 15% by Italian-Thai Development PCL (ITD) and
  - 25% by Lao Holding State Enterprise (LHSE),
- LHSE is a special purpose company wholly owned by the Lao Ministry of Finance.

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### 1. Introduction (cont...)

- The Project was ground-breaking because:
  - It was the first hydropower project supported by the World Bank in 10 years and followed the World Commission on Dams Report 2000;
  - It involved many multilaterals/ bilateral agencies/ commercial banks - each with environmental and social standards that needed to be brought together;
  - It adopted revenue management processes that had only been used once before; and,
  - Of it's scale compared to the host country's size and level of development.



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## 2. Basic Project Data and Objectives

- Discovery of the Site
- Formation of Development Group
- World Bank Involvement
- Concession Agreement
- Financial Development
- EDF Withdrawal and Return
- Final Development Phase
- Post Financing Review
- Implementation

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### 2. Basic Project Data and Objectives

#### Project Description – Discovery of the Site

- The NT2 site was identified by Mekong Secretariat in the 1970's.
- 1989/91 - World Bank feasibility study undertaken by Snowy Mountains Engineering Corp (SMEC).
- NT2 has a relatively low capital cost given the capacity and energy that could be generated from the Project.
- There was, however, little demand in Laos and Thailand.
- When Thailand's EGAT had difficulty developing its own capacity, it launched an IPP program in 1994.
- All Thai IPPs are thermal, which made NT2 attractive to EGAT.

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### 2. Basic Project Data and Objectives

#### Project Description – Formation of Development Group

- In March 1993, the Thai Government, the GOL and SMEC entered into a preliminary memorandum of agreement (MOU).
- SMEC helped put together a developer group led by Transfield, EDF and several Thai companies to construct NT2.
- In December 1993, a Joint Participation Agreement was signed between Transfield, EDF, ITD, Jasmine and Phatra Thanakit. This constituted the Nam Theun Electricity Consortium (NTEC).
- The Joint Participation Agreement was followed in February 1994 with an MOU between GOL, NTEC, EGAT and CECD-L for 1,500 MW.
- In June 1994, a GOL Heads of Agreement was signed between GOL and NTEC.

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### 2. Basic Project Data and Objectives

#### Project Description – IFI Involvement

- Market soundings suggested World Bank involvement needed.
- The World Bank had stopped supporting hydropower because of civil society pressures and some negative experiences.
- NTEC was concerned about World Bank timeliness because of safeguards and re-engaging with hydropower.
- In 1993 the GOL and NTEC agreed to develop the Project in accordance with World Bank guidelines.
- ADB involvement followed but with caution due to Theun Hinboun exposure in Laos.
- AFD and EIB involvement came later through EDF connection. AFD was also keen to establish in Lao PDR.



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### 2. Basic Project Data and Objectives

#### Project Description – Concession Agreement

- A pivotal agreement that was unprecedented because there had not been other projects quite like NT2.
- A particular challenge: how to convert World Bank's Operational Policies and Procedures into contractual language, especially as NT2 involved all 10 Safeguards.
- The Concession Agreement became prescriptive. The World Bank and other IFIs (and NGOs) needed to be satisfied themselves that Safeguards had been considered fully.
- In practice the CA has been difficult to implement because it could not provide for adaptive management.
- The CA had to make up for legislation that had simply not been developed, but it also overrode some legislation.

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### 2. Basic Project Data and Objectives

#### Project Description – Financial Development

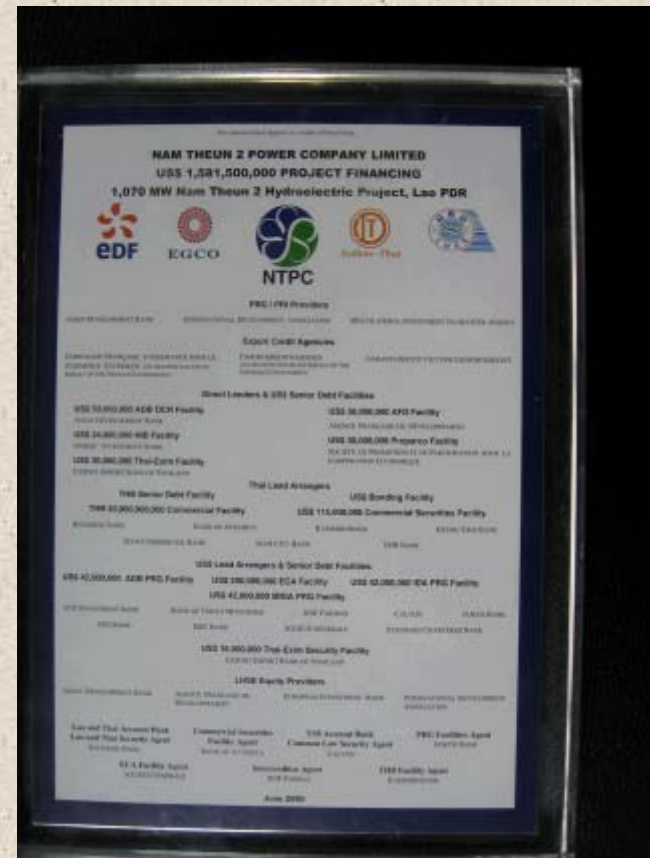
- The scale of the Project meant that financing could not come from a single or even just a few sources.
- Many financiers: public investors; private investors; multilateral and bilateral agencies; international commercial banks and Thai lenders. All needed to align interests.
- Lao Electricity Law requires GOL investment, which complicated financing further. Investment vehicle also needed.
- Financing should be simplified where possible but often it is not when local capital markets are thin.
- Good quality developers, a well prepared host government, experienced financiers and advisors then become even more important.



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## 2. Basic Project Data and Objectives

### Project Description – Financial Development



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### 2. Basic Project Data and Objectives

#### Project Description – EDF Withdrawal and Return

- In July 2003, EDF decided to withdraw from the Project just before the PPA was to be signed with EGAT.
- EDF said it was consolidating its assets and refocusing its priorities on the European electricity market.
- A French parliamentary commission said EDF's international plans had failed and unduly put taxpayers money at risk.
- The GOL and the other NT2 developers were in a difficult position. Diplomatic issues arose between Lao PDR and France.
- The GOL gave NTPC three months to find another developer and EGAT demanded that the PPA be signed within a year.
- EDF returned in October 2003 and NTPC signed a PPA with both EGAT and EDL on 8 November 2003 in Vientiane.



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### 2. Basic Project Data and Objectives

#### Project Description – Final Development Phase

- From kick-off on 18 February 2004 to financial close on 15 June 2005, the Project moved into the final development stage.
- This saw: financing term sheet negotiations; lender due diligence; finalization of safeguards; engagement with international civil society and; harmonization of social and environmental principles amongst financiers.
- This period also saw the raising of the GOL's equity in NTPC and negotiation of the IFI guarantee packages that underpinned NTPC's main financing.
- Loan signing was 3rd May 2005. NTPC satisfied conditions precedent in just six weeks, mostly because it was well organized and started early.



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## 2. Basic Project Data and Objectives

### Project Description – Post Financing Review

- The World Bank divided its effort into two elements, which created interfacing problems.
- The Industrial Project and the Nam Theun 2 Social and Environmental Project (NTSEP) had two separate teams. Coordination between them could have been improved.
- Changing personnel and interpretations of the Safeguards led to a number of new requirements of NTPC/ GOL.
- Getting an acceptable balance between the interests of all the Project's stakeholders left wanting a better process next for future projects.
- The World Bank, to its credit, commissioned an independent review of the Project and the World Bank's performance to learn lessons.



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### 2. Basic Project Data and Objectives

#### Project Description – Post Financing Review (Cont...)

- There were also many positives: such as in strengthening the institutional framework and human capacity so that a reasonable balance could be struck between the GOL and Developers.
- External monitoring and evaluation has helped shortfalls in capacity.
- The Panel of Experts (POE) has played an important watchdog role during the Project's implementation phase.

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## 2. Basic Project Data and Objectives

### Project Description – Implementation

- Base Project Cost: USD 1.25 billion
- Finance: 70/30 by debt and equity
- Standby finance: USD 200 million divided equally between lenders and shareholders, debt to be drawn first.
- In practice, the industrial project is on budget and E&S has had a USD 40 million overrun.
  - Livelihood Issues should have been dealt with earlier.
  - The Resettlement Action Plan (RAP) needed to adapt
  - Lesson learned is that livelihood issues take longer
- CCOD on the EPC is delayed but SCOD under the PPA is not due to some seasonal delays and turbine issues.



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### 2. Basic Project Data and Objectives

#### Major Project Objectives – Public Needs for the Project

- Lao PDR is one of the least developed economies but has valuable hydro resources - attractive to its neighbors.
- Revenues from NT2 - estimated USD 2 billion.
- Project helps meet its objective of increasing electrification.
- NT2 has had a significant influence over several national development outcomes:
  - Improved public financial management system
  - Improved community engagement & sustainable environmental and social programmes
  - Government institutional strengthening & stronger PPP framework
  - Increased interest by international financiers

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### 2. Basic Project Data and Objectives

#### Major Project Objectives – Why a PPP Arrangement was Selected

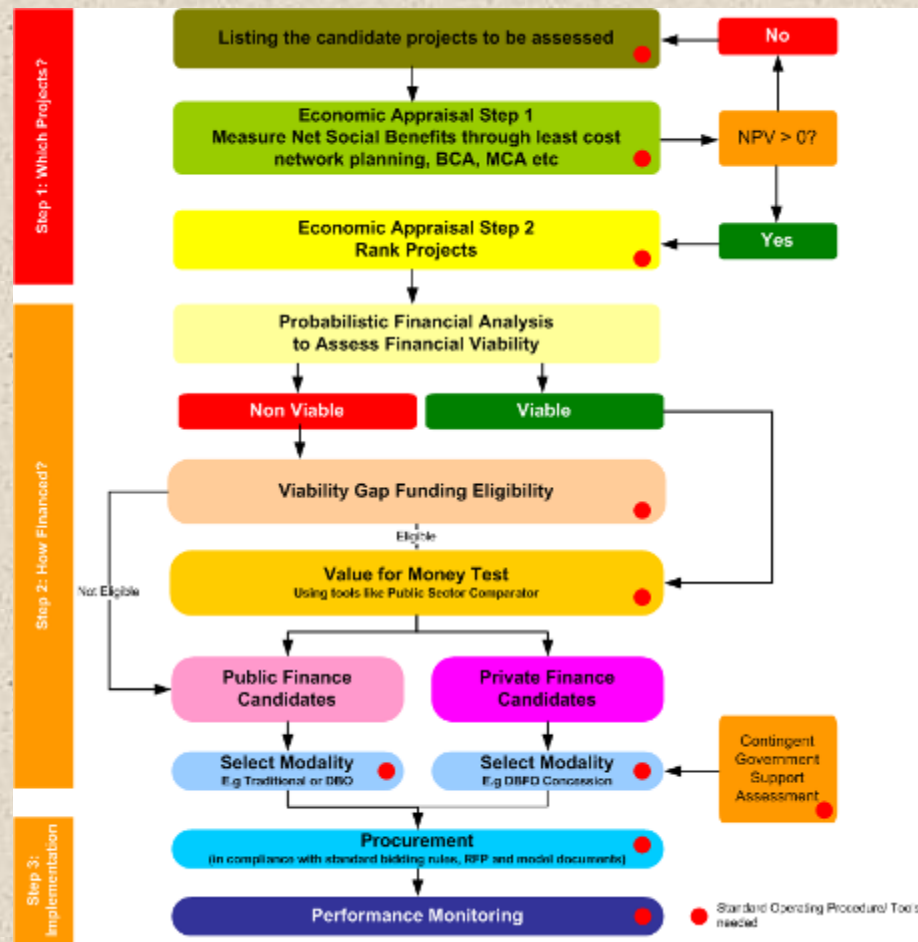
- GOL had no option in 1994 but to pursue a PPP model.
- There had been no IPP development in the country at that time.
- When the NT2 MOU was signed, the overall power system was in the order of 200 MW.
- A project on the scale of NT2 was beyond the human and financial capacity of the country.



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## 2. Basic Project Data and Objectives

### Major Project Objectives – Why a PPP Arrangement was Selected



- The diagram shows a modern infrastructure development system.
- The process can be followed down to a **Value for Money Test (VfM)**.
- However a VfM test to decide public or private does not apply.
- Modern PPP systems don't always apply to emerging markets.

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### 2. Basic Project Data and Objectives

#### Project Feasibility and Financial Structure

- Numerous comprehensive studies, including: (i) Study of alternatives; (ii) least cost analysis; (iii) regional impact assessment; (iv) procurement review; and (v) Safeguards policy compliance.
- NTEC and NTPC carried out geology, topography, hydrology surveys.
- Financial feasibility studies were done by IFIs, EDF, NTPC and commercial lenders.
- Over 600 consultancies by NTEC and NTPC to produce: (i) Social Development Plan (SDP), (ii) Environment Assessment and Management Plan (EAMP), and (iii) Social and Environment Management Framework and First Operational Plan (SEMFOP)



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### 2. Basic Project Data and Objectives

#### Project Feasibility and Financial Structure

Applications of Finance	USDm	THBm	Total USDm Equivalent (@ THB 40:USD 1)
Development Costs	72.2	80.0	74.2
Environmental Costs	48.8	0.0	48.8
GOL Contribution	29.2	0.0	29.2
O&M Pre-Operating Expenses	10.7	68.5	12.4
NTPC General & Administrative	29.6	161.4	33.6
Bonding/Financing Costs	17.1	0.0	17.1
Insurance	13.1	0.0	13.1
Contingencies	21.0	516.0	33.9
Working Capital	6.0	252.5	12.3
GOL Works	3.0	0.0	3.0
<b>Total Pre-Operating</b>	<b>250.5</b>	<b>1,078.4</b>	<b>277.5</b>
Head Construction Contract/NTPC Works	401.0	12,846.5	722.2
<b>Total Costs (excl. IDC)</b>	<b>651.5</b>	<b>13,924.9</b>	<b>999.7</b>
IDC and Other Costs	143.5	4,275.5	250.3
<b>Total Base Costs</b>	<b>795.0</b>	<b>18,200.4</b>	<b>1,250.0</b>
Total Contingent Costs	116.6	3,335.1	200.0
<b>Total Costs</b>	<b>911.6</b>	<b>21,535.5</b>	<b>1,450.0</b>

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### 2. Basic Project Data and Objectives

#### Project Feasibility and Financial Structure

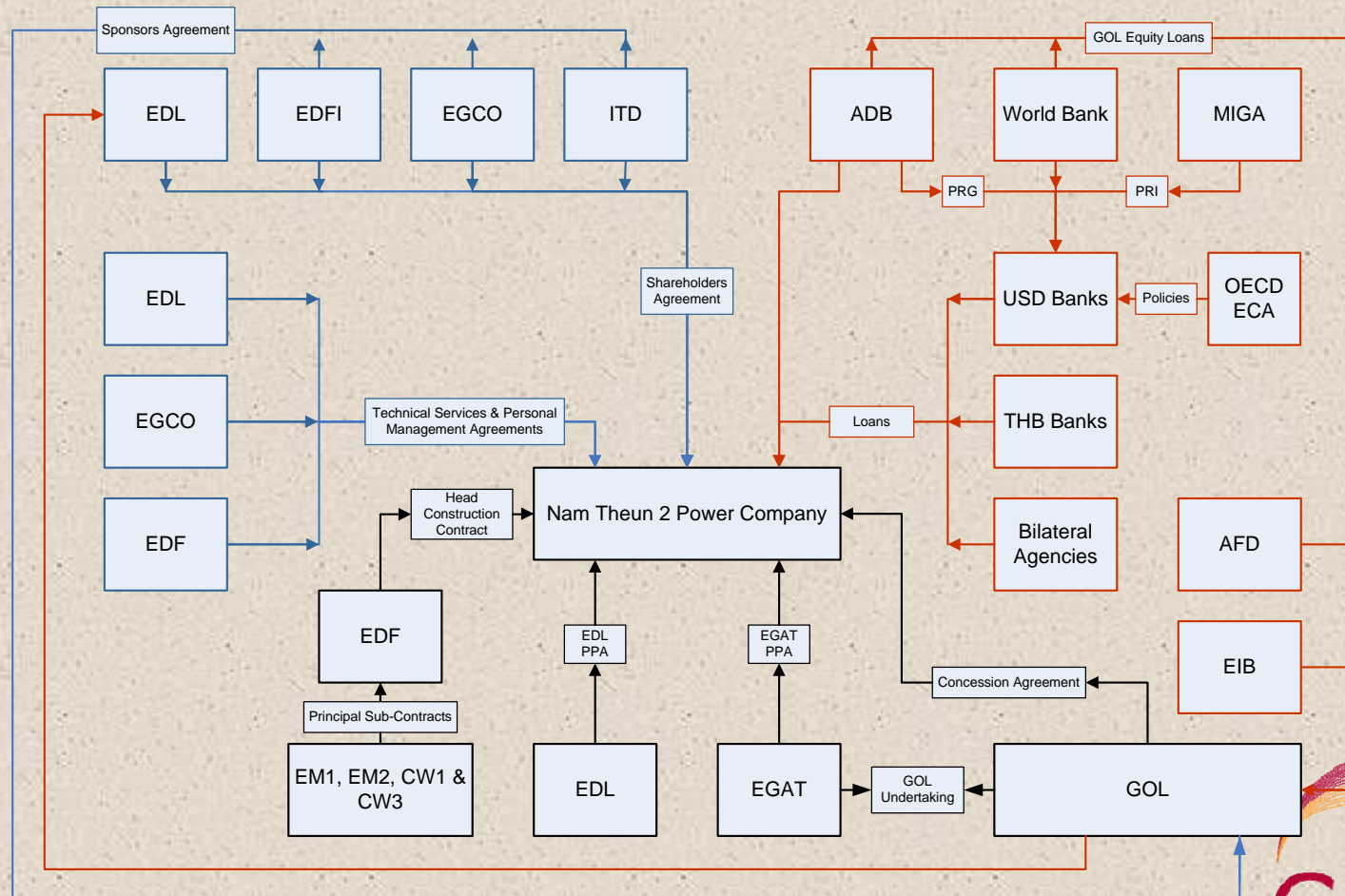
Sources of Finance	Total USDm Equivalent (@ THB 40:USD 1)
<i>Guarantors for International Commercial Lenders</i>	
COFACE	140.0
EKN	30.0
GIEK	35.0
IDA	45.0
ADB	45.0
MIGA	45.0
<b>Guarantors for International Commercial Lenders</b>	<b>340.0</b>
<i>Debt Financers</i>	
ADB (OCR)	45.0
AFD	30.0
NIB	30.0
Proparco	30.0
Thai-Exim	25.0
Thai Commercial Banks (THB financing)	500.0
<b>Total Long Term Debt</b>	<b>1,000.0</b>
Private Equity	332.7
GOL Equity	112.5
<b>Total Equity</b>	<b>445.2</b>



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### 2. Basic Project Data and Objectives

#### Project Contractual Structure



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### 2. Basic Project Data and Objectives

#### Legal and Regulatory Regime

- Legal system in Lao PDR is based on traditional customs, French law, and socialist practice. Is not based on precedent.
- Legislation is not strong but has improved since New Economic Mechanism (NEM).
- Legislation important to NT2 included: (i) the Law on Foreign Investment, (ii) Electricity Law, and (iii) Water and Water Resources Law and Environmental Protection Law.
- Gaps in legislation needed to be agreed between the GOL and NTPC and specified in the CA. CA is governed by Lao PDR Law but can be interpreted under English law.
- Dispute resolution via UNCITRAL. GOL waived its rights to claim sovereign immunity and agreed not to terminate its membership of the New York Convention.



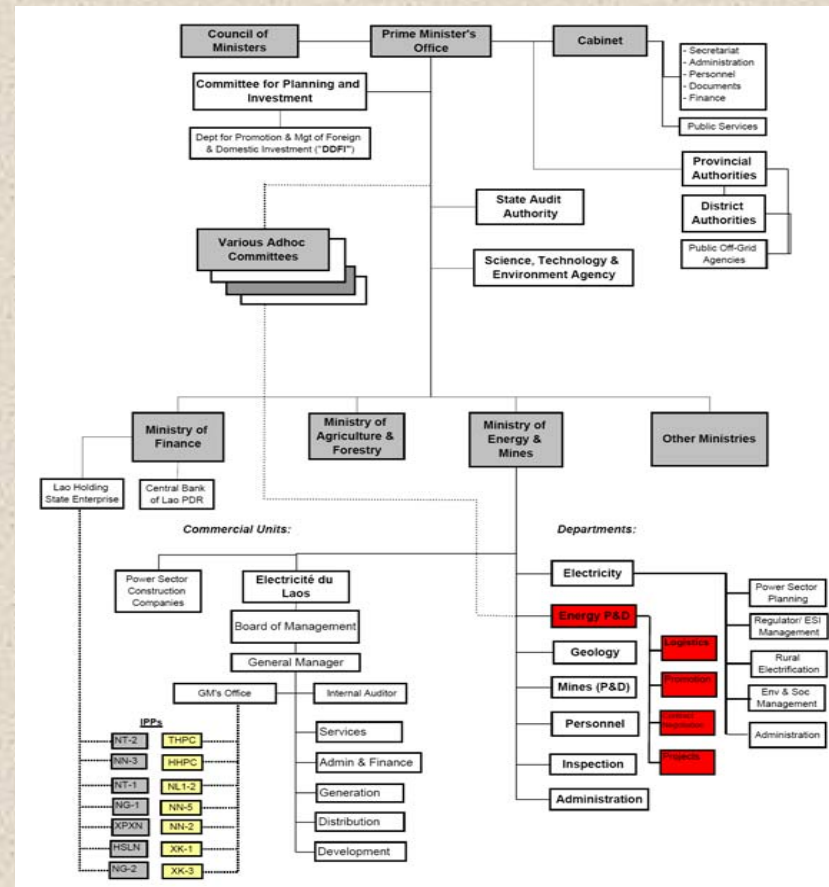
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## 2. Basic Project Data and Objectives

### Institutional Arrangements and Approval Procedures for PPP Projects

#### Key Institutions:

- The Ministry of Energy and Mines;
- Electricite du Laos;
- Water Resources and Environment Agency;
- Committee for Planning and Investment (CPI);
- Lao National Committee for Energy (LNCE);
- Ministry of Finance (MOF); and
- The Lao Holding State Enterprise (LHSE)



## PPP Workshop: Lessons from Asian Experience

### 3. Experience with Procurement of the Project

- Competitive tendering or negotiation of unsolicited proposal?
- Applied procedure for negotiation of unsolicited proposal.
- Approaches used for risk sharing and management.
- Tendering Procedure Adopted.
- Experience with the Performance of Post – Award Activities.
- Estimate of Transaction Costs and Transaction Time.
- Lessons Learned - Experience with the Procurement Process.



## PPP Workshop: Lessons from Asian Experience

### 3. Experience with Procurement of the Project

Competitive tendering or negotiation of unsolicited proposal?

- IPP procurement model:
  1. Developers approach GOL
  2. Mandate negotiated/MOU signed
  3. GOL/Developer negotiate tariff with off-taker

GOL does not take the lead

Processes and documentation not standardised

Effective institutional, planning and procurement arrangements are needed

NT2 economics strong enough to bear costs of strengthening Lao PDR IPP setting

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### 3. Experience with Procurement of the Project

Competitive tendering or negotiation of unsolicited proposal?

- Improvements to Lao PDR IPP framework from NT2 include:
  - Improved procurement practices;
  - Closing gaps in the legal setting;
  - Improving the ability of financiers to perfect the taking of security;
  - Development of a revenue management system;
  - Addressing the WCD standards and taking major hydro development to a new level; and,
  - Improving power purchase agreements.



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### 3. Experience with Procurement of the Project

Competitive tendering or negotiation of unsolicited proposal?



Photo by Vincent Gautier © NTPC

- Hydropower projects not geared towards competitive tender:
  - Highly capital intensive nature;
  - High risks regarding construction costs;
  - High risks regarding commissioning dates; and,
  - Variable output based on reservoir levels.

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### 3. Experience with Procurement of the Project

Applied procedure for negotiation of unsolicited proposal

The process for negotiating the arrangements between the GOL and NTPC were as follows:

1. World Bank financed feasibility study 1989.
2. MOU agreed with SMEC.
3. SMEC established a consortium (NTEC) with Transfield, EDF and several Thai companies.
4. Heads of Agreement signed between GOL and NTEC 1994.



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### 3. Experience with Procurement of the Project

Applied procedure for negotiation of unsolicited proposal

5. First series of E&S safeguard documents produced 1997.
6. Shareholders Agreement signed 2001.
7. EGAT PPA and EDL PPA drafted.
8. HCC, Sponsor's Agreement, Technical Services contract and GOL undertaking drafted.
9. Financing documentation drafted.



Photo by Vincent Gautier © NTPC

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### 3. Experience with Procurement of the Project

#### Approaches used for risk sharing and management

- The CA documents the transfer of risk between the GOL and NTPC
- NTPC managed its risks through contractual arrangements:
  - Design and Construction Risks and Management;
  - Operating Period Risks and Management;
  - Environmental and Social Risks and Management;
  - Political Risks and Management;
  - Conclusions on Risk Management.



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### 3. Experience with Procurement of the Project

#### Approaches used for risk sharing and management

- Design and Construction Risks and Management
  - NTPC allowed to contract the HC under the HCC.
  - HC allowed to subcontract civil and electro mechanical works to subcontractors.
  - Dam Safety Review Panel to review for six years.
  - GOL engineer employed to advise on technical matters.
  - NTPC responsible for all pre-construction risks and construction risks bar force majeure and GOL events.
  - Plant construction risk passed to HCC.
  - HCC passed risk on to five subcontractors.
  - EGAT responsible for completion risk for transmission line.



Photo by Vincent Gautier © NTPC

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### 3. Experience with Procurement of the Project

Approaches used for risk sharing and management

- Operating Period Risks and Management
  - NTPC responsible for all commercial and hydrological risks during operation.
  - CA allows NTPC to sell capacity and electricity to EGAT and EDL.
  - No third party sales allowed.
  - USD and THB accounts allowed in specified countries to offset currency and transfer risk.

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### 3. Experience with Procurement of the Project

Approaches used for risk sharing and management

- Environmental and Social Risks and Management
  - NTPC responsible for resettlement and E&S activities outside the watershed area.
  - GOL responsible for E&S activities inside the watershed area.
  - All activities funded by NTPC.
  - EMU established by the GOL to monitor and supervise implementation.
  - WMPA established to prepare and develop watershed operational and management activities.



Photo: © NTPC



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### 3. Experience with Procurement of the Project

#### Approaches used for risk sharing and management

- Political Risks and Management
  - Category 1 Lao Sovereign Events cover events outside the GOL's control including political sabotage, non-Thai invasion and border closure.
    - Compensation can be paid to NTPC at the GOL's election.
  - Category 2 Lao Sovereign Events cover events within the GOL's control.
    - Compensation must be paid to NTPC.
  - Termination occurs if the EGAT PPA is terminated or if a LSE continues for more than two years

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### 3. Experience with Procurement of the Project

#### Tendering Procedure Adopted

- IFIs comfortable with consortium procurement overall.
- IFIs wanted to ensure contracting arrangements were:
  - i) Cost effective.
  - ii) Consistent with procurement rules for funding eligibility.
- Procurement review commissioned by the World Bank.
- Particular attention was given to contracts awarded to parties associated with NTPC without competition (HC and CW1).
- No grounds for concern were found.

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### 3. Experience with Procurement of the Project

#### Experience with the Performance of Post – Award Activities

- NTPC established in 1993.
- Project Company established in 2002.
- CA signed and financial close reached in 2005.
- Project costs mostly on budget (E&S USD 40 million).
- In hindsight the RAP should have been addressed earlier.
- CCOD delayed by five months.
- SCOD unlikely to be impacted by this delay.



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### 3. Experience with Procurement of the Project

#### Estimate of Transaction Costs and Transaction Time

- Development costs borne by NTEC and NTPC
  - USD 200 million (15% of base project cost).
  - Larger than typical projects (7% standard).
- NT2 highly customized which increases project cost.
- CA very prescriptive and purpose built for the Project.

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### 3. Experience with Procurement of the Project

#### Lessons Learned - Experience with the Procurement Process

- Ideally Lao PDR would have had a more robust framework for:
  - Identifying projects for development;
  - Designating these as export or domestic projects;
  - Selecting developers using a standardised process;
  - Specifying the timetable and process;
  - Utilizing standardised MOU, PDA and CA models;
  - Having a model PPA for domestic offtake; and,
  - Allocating contracting, monitoring, offtake and shareholding functions to those that have the best capacity to fulfill these.

## **4. Design, Construction and Commissioning**

- Design and Construction Arrangements – Selection of Contractors.
- Allocation of Construction Risks.
- Construction Schedule and Performance.
- Construction Costs.
- Monitoring and Evaluation, Testing and Commissioning.
- Lessons Learned - Design, Construction and Commissioning.
- Environmental and Social Programs.



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### 4. Design, Construction & Commissioning

#### Design and Construction Arrangements – Selection of Contractors

- Three Civil Works Contracts: Underground works, Power House, Downstream Channel, CW1, CW2, CW3.
- Two electro-mechanical (EM) contracts: Francis and Pelton turbine-generator units, switchyard and transmission facilities to evacuate energy. EM1, EM2.
- CW2, CW3, EM1 and EM2 bid competitively.
- About 50 companies sought PQ documents and 37 firms responded. Of these, 22 were PQ'd. A 4-phase bid evaluation procedure was adopted for packages.
- For the HC, a turnkey consortium of EDF and ITD were excluded from NTEC/ NTPC management of the contracts.
- EDF also agreed to transparent open book pricing.

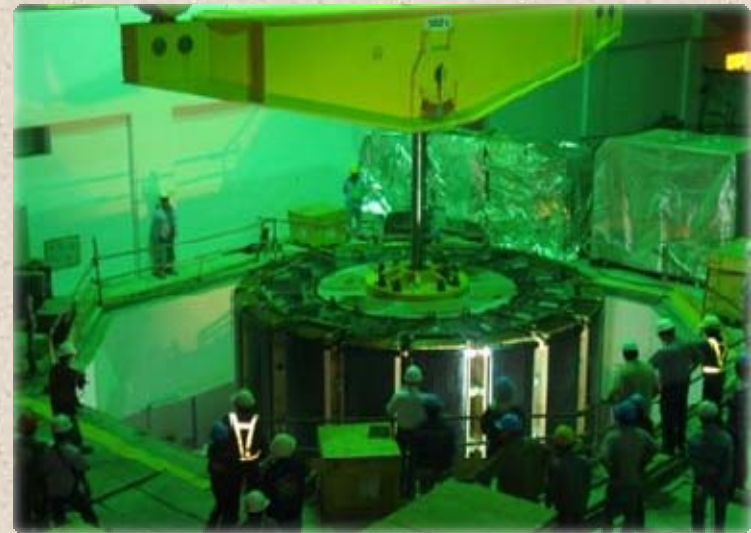


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### 4. Design, Construction & Commissioning

#### Allocation of Construction Risks

- The HCC is fixed price and back to back with sub-contracts.
- Limited circumstances to increase the HCC price, like NTPC suspending or accelerating work, delays by NTPC and defects not the fault of the HCC.
- NTPC takes EGAT transmission delay risk in HCC but not in the PPA. NTPC also responsible for hydrological events and some geological conditions (e.g. river diversion and impoundment).
- NTPC takes resettlement risk if this delays HCC and some UXO risk.
- HC's non-performance is managed through a 15% performance security, 9 months of delay LFs, LD's for specification failure and 18 months extensible defects liability arrangements.

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### 4. Design, Construction & Commissioning

#### Construction Schedule and Performance

- Construction activities - on track for SCOD in December 2009.
- Critical date for closure of diversion tunnel in April 2008 met.
- On electromechanical works, testing of the first unit started.
- There has been a delay in the Pelton units dedicated to EDL and an emphasis on the Francis units dedicated to EGAT.
- LDs are payable to EGAT and not EDL.
- Lesson: Domestic supply PPA should be comparable commercially to export PPA so that both are treated equally.



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### 4. Design, Construction & Commissioning

#### Approximate Construction Costs

HCC Component	USDm	%	\$/kW
Civil Works	375	50%	350
Electro-mechanical works	248	33%	231
Project Management & Wrap	113	15%	105
Contingencies	15	2%	14
<b>Total</b>	<b>750</b>	<b>100%</b>	<b>701</b>

- Construction costs were split roughly 60/40 between USD and THB.
- USD 700/ kW is extraordinarily good value on a per MW basis.

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### 4. Design, Construction & Commissioning Monitoring and Evaluation, Testing and Commissioning

- Four levels of monitoring were applied to the Project's construction:
  - NTPC Owner's Engineer (NTPC Investors);
  - Lender's Engineer (Credit Agreements);
  - GOL Engineer (Concession Agreement); and,
  - Panel of Experts (CA/ IFIs).
- Attempts were made to combine monitoring, but in practice this has been difficult to achieve.
- In retrospect, monitoring and evaluation harmonization is an activity that deserves early attention.

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### 4. Design, Construction & Commissioning

#### Lessons Learned - Design, Construction and Commissioning



Photo: © NTPC

- Lessons learned regarding the social and environmental project;
- Country risks require much care and thought;
- A limited role for export credits increased commercial lending – interfacing with many public lenders was challenging;
- A common set of E&S principles need early development;
- Safeguards were challenging, not always a shared understanding of public lender requirements – needs careful specification;
- GOL capacity was stretched at times – needs careful planning; and,
- Building trust and goodwill amongst parties pays off.



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### 4. Design, Construction & Commissioning Environmental and Social Programs

- NT2 ultimately two projects: Industrial and developmental.
- Environmental & Social Impact Assessment Documents developed late in development period.
- 1400 sections of the CA relate to E&S issues.
- 400 GOL personnel and 150 development specialists involved in development and implementation.

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### 5. Phase 2 – O&M

- This was not considered in the case study because the Nam Theun 2 project has not yet been commissioned.

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### 6. Phase 3 – Partnership Support

- Government Support
  - Provision of land, access roads and service from utilities.
  - Support and assistance in obtaining permits.
  - Guarantee of payment and performance by the public utility.
  - Exemptions relating to domestic laws such as taxation, employment laws, registration requirements etc
  - Protection against the adverse consequences of new laws or changes in existing law.
  - Currency exchange protection
- Lessons Learned - Experience with Support from Government to Date



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### 6. Phase 3 – Partnership Support

#### Provision of Land, Access Roads and Service from Utilities

- GOL provides NTPC rights to access and use land relating to the Project for the duration of the concession period.
- GOL provides NTPC exclusive water rights at no charge during the concession period.
- NTPC is obligated to:
  - Construct 62km of roads;
  - Upgrade 82km of road; and,
  - Build six bridges relating to these roads.



Photo by Vincent Gautier © NTPC

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### 6. Phase 3 – Partnership Support

#### Support and Assistance in Obtaining Permits

- The GOL agreed to grant NTPC and associated contractors all necessary approvals related to the Project.
- The GOL was required to have certain laws amended to ensure consistency with the CA.
- The GOL agreed to enter into arrangements with IFIs for their support.

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### 6. Phase 3 – Partnership Support

#### Guarantee of Payment and Performance by the Public Utility

- The GOL has three interfaces with the Project:
  - 1) Sovereign granting a concession to NTPC;
  - 2) Shareholder through LHSE;
    - LHSE injected its entire equity share into NTPC in year one.
  - 3) Power purchaser through EDL;
    - No financial support from GOL to EDL.
    - World Bank required GOL to allow EDL to move towards recovering its cost of operations through tariffs.



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### 6. Phase 3 – Partnership Support

#### Exemptions relating to Domestic Laws

- Tax Law
  - NTPC and contractors are exempt from:
    - » Business turnover tax;
    - » Withholding tax;
    - » Land tax; and,
    - » Most documentation expenses.
  - No income tax for the first five years.
  - 5% income tax from years six to 12.
  - 15% income tax from years 12 to 18.
  - 30% income tax thereafter.

## PPP Workshop: Lessons from Asian Experience

### 6. Phase 3 – Partnership Support

#### Exemptions relating to Domestic Laws

- Labor Law
  - GOL agreed to expedite labor permits provided Labor Laws and Immigration Laws are complied with.
  - NTPC agreed to allow a Lao preference to support Lao employment.
- Foreign Investment Law
  - GOL allowed NPTC to open local accounts and USD/THB accounts in specified countries.

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### 6. Phase 3 – Partnership Support

#### Protection against the Adverse Consequences of New Laws

- Adverse changes in Lao PDR law that increase NTPC's costs or reduce its income (to specified thresholds) allow NTPC to claim exemption.
- If the GOL disallows an exemption, NTPC is entitled to compensation (direct payment or a reduction in royalties).
- Unremedied law changes are also covered by IFI partial risk guarantees.



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### 6. Phase 3 – Partnership Support Currency Exchange Protection

- Natural currency hedges are created by:
  - Capital expenditure and financing charges during the construction period being split between USD and THB.
  - Revenues during the operating period being split between USD and THB.
- Therefore the GOL is not obliged to provide protections to NTPC for exchange rates, convertibility or transfer.

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### 6. Phase 3 – Partnership Support

#### Lessons Learned - Experience with Support from Government to Date

- The GOL will face human resource constraints for future projects.
- The GOL would benefit from key money required for future projects.
- The GOL would benefit from a small initial equity stake with an option to increase closer to financial close.
- The GOL benefits from a non-EDL shareholding entity.

## **PPP Workshop: Lessons from Asian Experience**

### **6. Phase 3 – Partnership Support**

#### **Lessons Learned - Experience with Support from Government to Date**

- The GOL would have benefited if LHSE was established as a holding company (with numerous SPVs) instead of as a SPV.
- LHSE would have benefited if it funded a separate NT2 division.
- The GOL would have benefited if a small share of NT2 revenues were allocated to EPD and LHSE for future projects.



## PPP Workshop: Lessons from Asian Experience

### 7. Lesson Learned from the Project



Photo: © Ridgway Capital Projects

- Has the PPP project to date achieved its main objectives as envisaged?
- What were the key problems encountered during project preparation, procurement, construction, operation and maintenance of the Project?
- Has the private investor been reasonably satisfied with the support provided by public authorities?

## PPP Workshop: Lessons from Asian Experience

### 7. Lesson Learned from the Project

Has the PPP project to date achieved its main objectives as envisaged?

- Economic development enhanced through private sector development?
  - USD 1.9 billion from royalties/taxes/dividends from NT2.
  - Economic relationship strengthened with Thailand.
  - Consistent with Lao PDR environmental legislation.
- Policies and tools developed to strengthen GOLs capacity for further hydropower projects?
  - Achieved for both Lao PDR and international agencies.
  - Benchmark for future projects.
  - Significant cost associated with achieving objectives.

## PPP Workshop: Lessons from Asian Experience

### 7. Lesson Learned from the Project

What were the key problems encountered?

- The GOL had limited funding for pre-bid studies.
  - Competitive bidding was not viable.
- Absence of necessary legislation in 1993 (foreign investment, electricity, environmental, water resources).
  - Complex CA.
- Asian Economic Crisis.
  - Suppressed demand and constrained capital.
- Imprecise environmental and social requirements from the World Bank.
  - Substantial revisions of CA and additional burdens on GOL/NPTC.



## PPP Workshop: Lessons from Asian Experience

### 7. Lesson Learned from the Project

What were the key problems encountered?

Continued...

- The procurement of head contractor and sub-contractor.
  - GOL & IFIs needed to be assured of procurement integrity.
- The NTPC procurement advisors were not appointed during early stages of the project.
  - Matching project costs to eligible funding was difficult.
- The NTSEP facility draw-downs were complicated.
  - Full-time NTPC staff member required to coordinate.



Photo by Vincent Gautier © NTPC

## PPP Workshop: Lessons from Asian Experience

### 7. Lesson Learned from the Project

What were the key problems encountered?

Continued...

- The GOL was resistant to changing original EDL ownership model.
  - Difficulties in raising capital for GOL equity.
- The GOL was eligible for HIPC debt rescheduling/forgiveness.
  - Lenders needed assurance the GOL equity wouldn't fail.
- Revenue management strategies were introduced too late.
  - Development of associated policies took a long time.
- EDF's withdrawal from the Project.
  - Jeopardized the structure of the developer group.
- Monitoring and Evaluation has a multi-layered approach.
  - Additional burden placed on NTPC & GOL.

## PPP Workshop: Lessons from Asian Experience

### 7. Lesson Learned from the Project

**Has the Private Investor been Satisfied with Public Authorities?**

- Have NTPC shareholder equity returns been above their threshold rates?
- Have NTPC shareholders engaged in responsible development?
- Have NTPC shareholders promoted additional opportunities for themselves?



## **8. Comparison of PPP and Public Financing**

- Value for Money (VfM) used as a decision making tool
  - Risk adjusted quality and cost considered from both private and public sectors.
  - Public sector capital raising has a major influence on PPP decision making.

## PPP Workshop: Lessons from Asian Experience

### 9. Summary – General Evaluation/Key Issues

- Review of Tendering Process.
- Review of Project Feasibility
- Review of Financing Mechanisms.
- Review of Construction Management and Timeframes.
- Review of Social and Environmental Safeguards
- Review of Reduced Lifecycle Costs
- Review of Quality of Service
- Review of Private Sector Innovations
- Review of Risk Allocation
- Review of Technology Application
- Review of Project Maintenance Program