



# Periodic Financing Request Report

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Project Number: 42039-036  
December 2015

## Socialist Republic of Viet Nam: Multitranche Financing Facility Power Transmission Investment Program (Tranche 3)

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**Asian Development Bank**

## CURRENCY EQUIVALENTS

(as of 11 November 2015)

Currency Unit	–	dong (D)
D1.00	=	\$0.0000446329
\$1.00	=	D22,405

## ABBREVIATIONS

ADB	–	Asian Development Bank
AFD	–	Agence Française de Développement
DDR	–	due diligence report
EMP	–	environmental management plan
EVN	–	Vietnam Electricity
FFA	–	Framework Financing Agreement
IEE	–	initial environmental examination
IOE	–	Institute of Energy
km	–	kilometer
kV	–	kilovolt
LIBOR	–	London interbank offered rate
MFF	–	multitranches financing facility
MVA	–	megavolt-ampere
NPT	–	National Power Transmission Corporation
PDMP	–	Power Sector Development Master Plan
PPMB	–	power project management board
REMDP	–	resettlement and ethnic minority development plan
RP	–	resettlement plan
VWEM	–	Viet Nam wholesale electricity market

## NOTE

In this report, "\$" refers to US dollars unless otherwise stated.

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## TRANCHE AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number: 42039-036</b>	
<b>Project Name</b>	Power Transmission Investment Program - Tranche 3	<b>Department /Division</b>	SERD/SEEN
<b>Country Borrower</b>	Viet Nam, Socialist Republic of Government of Viet Nam	<b>Executing Agency</b>	National Power Transmission Corporation
<b>2. Sector</b>		<b>ADB Financing (\$ million)</b>	
✓ Energy	Electricity transmission and distribution		231.31
		<b>Total</b>	<b>231.31</b>
<b>3. Strategic Agenda</b>		<b>Climate Change Information</b>	
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded	Climate Change impact on the Project	Low
<b>4. Drivers of Change</b>		<b>Gender Equity and Mainstreaming</b>	
Private sector development (PSD)	Public sector goods and services essential for private sector development	No gender elements (NGE)	✓
<b>5. Poverty Targeting</b>		<b>Location Impact</b>	
Project directly targets poverty	No	Nation-wide	High
<b>6. Risk Categorization:</b> Complex			
<b>7. Safeguard Categorization</b> Environment: B Involuntary Resettlement: A Indigenous Peoples: B			
<b>8. Financing</b>			
<b>Modality and Sources</b>		<b>Amount (\$ million)</b>	
<b>ADB</b>		<b>231.31</b>	
Sovereign MFF-Tranche (Loan): Ordinary capital resources		231.31	
<b>Cofinancing</b>		<b>0.00</b>	
None		0.00	
<b>Counterpart</b>		<b>76.38</b>	
Government		76.38	
<b>Total</b>		<b>307.69</b>	
<b>9. Effective Development Cooperation</b>			
Use of country procurement systems		No	
Use of country public financial management systems		No	

## TRANCHE AT A GLANCE

Date of Receipt by ADB of PFR: 9 October 2015

Tranche Number: 3

### 10. Country Operations Business Plan

**CPS**

<http://www.adb.org/sites/default/files/institutional-document/33620/files/cps-vie-2012-2015-r.pdf>

**COBP**

<http://www.adb.org/sites/default/files/institutional-document/152082/cobp-vie-2015-2017.pdf>

### 11. Tranche Summary

The investment program will contribute to meeting electricity demand growth of industrial, commercial, and residential consumers in an economically and environmentally sustainable manner. The outcome of the investment program is enhanced capacity of the transmission network to balance power load. The investment program also supports partial implementation of National Power Sector Development Master Plan VII to meet growing electricity demand of industrial, commercial and residential consumers throughout Viet Nam, and improve the operational effectiveness and efficiency of the National Power Transmission Corporation (NPT)-the entity responsible for financing, managing and operating the transmission network to ensure reliable electricity supply.

Tranche 3 will finance part of each of the two outputs:

Output 1: Expanded Transmission Network (Physical investment)

Output 3: Project Implementation Support (Non-physical investment)

**Impact and Outcome:** The impact will be meeting electricity demand growth of industrial, commercial and residential consumers throughout Viet Nam by 2025. The outcome will be enhanced capacity of transmission network to balance power load.

**Outputs:** (i) Expanded Transmission Network, (ii) Improved Operational Effectiveness and Efficiency of NPT (deferred to tranche 4), and (iii) Project Implementation Support

**Implementation Arrangements:** National Power Transmission Corporation will be the executing agency.

**Project Readiness:** Like for tranche 1 and tranche 2, NPT will oversee investment program implementation and management for tranche 3.

### 12. Significant Developments in the MFF and Previous Tranches

Construction for all subprojects started and advanced well in line with initially planned implementation schedule except for the 500/220kV Pho Noi Substation under tranche 1.

### 13. Milestones

**Estimated Approval**

11 December 2015

**Estimated Effectiveness**

**Estimated Completion<sup>a</sup>**

30 June 2020

### 14. Linked Documents

	Required Document	Disclosure Date
(i) Environment	IEE - Initial Environment Examination	
Weblink:	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-binh-long-tay-ninh-tl-jun-2015-iee">http://www.adb.org/projects/documents/vie-ptip-t3-binh-long-tay-ninh-tl-jun-2015-iee</a>	13 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-chon-thanh-ss-jun-2015-iee">http://www.adb.org/projects/documents/vie-ptip-t3-chon-thanh-ss-jun-2015-iee</a>	13 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-duc-hoa-220kv-ss-jun-2015-iee">http://www.adb.org/projects/documents/vie-ptip-t3-duc-hoa-220kv-ss-jun-2015-iee</a>	13 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-uyen-hung-ss-jun-2015-iee">http://www.adb.org/projects/documents/vie-ptip-t3-uyen-hung-ss-jun-2015-iee</a>	13 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-vung-tau-ss-jun-2015-iee">http://www.adb.org/projects/documents/vie-ptip-t3-vung-tau-ss-jun-2015-iee</a>	13 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-my-tho-duc-hoa-tl-jun-2015-iee">http://www.adb.org/projects/documents/vie-ptip-t3-my-tho-duc-hoa-tl-jun-2015-iee</a>	13 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-cau-bong-ss-jun-2015-iee">http://www.adb.org/projects/documents/vie-ptip-t3-cau-bong-ss-jun-2015-iee</a>	13 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-tra-vinh-ss-jun-2015-iee">http://www.adb.org/projects/documents/vie-ptip-t3-tra-vinh-ss-jun-2015-iee</a>	13 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-duc-hoa-500kv-ss-jun-2015-iee">http://www.adb.org/projects/documents/vie-ptip-t3-duc-hoa-500kv-ss-jun-2015-iee</a>	13 August 2015
(ii) Involuntary resettlement	RP - Resettlement Plan	
Weblink:	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-vung-tau-ss-jun-2015-rp">http://www.adb.org/projects/documents/vie-ptip-t3-vung-tau-ss-jun-2015-rp</a>	14 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-my-tho-duc-hoa-tl-long-an-jun-2015-rp">http://www.adb.org/projects/documents/vie-ptip-t3-my-tho-duc-hoa-tl-long-an-jun-2015-rp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-my-tho-duc-hoa-tl-tien-giang-jun-2015-rp">http://www.adb.org/projects/documents/vie-ptip-t3-my-tho-duc-hoa-tl-tien-giang-jun-2015-rp</a>	14 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-chon-thanh-ss-jun-2015-rp">http://www.adb.org/projects/documents/vie-ptip-t3-chon-thanh-ss-jun-2015-rp</a>	14 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-duc-hoa-500kv-ss-jun-2015-rp">http://www.adb.org/projects/documents/vie-ptip-t3-duc-hoa-500kv-ss-jun-2015-rp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-binh-long-tay-ninh-tl-tay-ninh-segment-jun-2015-remdp">http://www.adb.org/projects/documents/vie-ptip-t3-binh-long-tay-ninh-tl-tay-ninh-segment-jun-2015-remdp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-uyen-hung-ss-mar-2015-rpddr-rp">http://www.adb.org/projects/documents/vie-ptip-t3-uyen-hung-ss-mar-2015-rpddr-rp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-ba-ria-vung-tau-tl-may-2015-rpddr-rp">http://www.adb.org/projects/documents/vie-ptip-t3-ba-ria-vung-tau-tl-may-2015-rpddr-rp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-cau-bong-ss-mar-2015-rpddr-rp">http://www.adb.org/projects/documents/vie-ptip-t3-cau-bong-ss-mar-2015-rpddr-rp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-220kv-duc-hoa-ss-mar-2015-rpddr-rp">http://www.adb.org/projects/documents/vie-ptip-t3-220kv-duc-hoa-ss-mar-2015-rpddr-rp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-my-tho-ss-jun-2015-rpddr-rp">http://www.adb.org/projects/documents/vie-ptip-t3-my-tho-ss-jun-2015-rpddr-rp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-tay-ninh-ss-jun-2015-rpddr-rp">http://www.adb.org/projects/documents/vie-ptip-t3-tay-ninh-ss-jun-2015-rpddr-rp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-tra-vinh-ss-mar-2015-rpddr-rp">http://www.adb.org/projects/documents/vie-ptip-t3-tra-vinh-ss-mar-2015-rpddr-rp</a>	17 August 2015
	<a href="http://www.adb.org/projects/documents/vie-ptip-t3-binh-long-tay-ninh-tl-binh-phuoc-s">http://www.adb.org/projects/documents/vie-ptip-t3-binh-long-tay-ninh-tl-binh-phuoc-s</a>	17 August 2015

## TRANCHE AT A GLANCE

	<a href="#">egment-jun-2015-remdp</a>	
(iii) Indigenous peoples		
Weblink:		

<sup>a</sup> For Tranches, this refers to the financial closing date.

## I. BACKGROUND

1. Recognizing the need to overcome constraints in the power sector to ensure that rapidly growing electricity demand can match strong economic growth, the government of Viet Nam approved in 2011 the National Power Sector Development Master Plan VII (PDMP VII).<sup>1</sup> With PDMP VII, the government approved multiple power generation and transmission projects to be implemented during 2011–2020.

2. Asian Development Bank's (ADB) Board of Directors approved the multitranche financing facility (the facility) in an aggregate principal amount not exceeding \$730 million to the Socialist Republic of Viet Nam for the Power Transmission Investment Program (investment program)<sup>2</sup> from ADB's ordinary capital resources on 16 December 2011. Subsequently, on 20 December 2011, a framework financing agreement (FFA) for the facility was signed between the Government of Viet Nam and ADB. This investment program supports partial implementation of PDMP VII to meet growing electricity demand of industrial, commercial and residential consumers throughout Viet Nam, and improve the operational effectiveness and efficiency of the National Power Transmission Corporation (NPT) to ensure reliable electricity supply. The investment program's executing agency is NPT.

3. The outcome of the investment program is the enhanced capacity of Viet Nam's transmission network to balance power loads. The facility is anticipated to consist of four tranches and each tranche will finance part of the three outputs being: output 1: expanded transmission network (physical investment); output 2: improved operational effectiveness and efficiency (non-physical investment); and output 3: project implementation support and safeguard compliance (non-physical investment).

4. The overall facility will add approximately 749 kilometres (km) of transmission lines and 8,000 megavolt-ampere (MVA) of transformer capacity. Tranche 1 was approved by ADB on 29 December 2011 in an amount of \$120.50 million and became effective on 9 July 2012. Tranche 2 was approved by ADB on 5 December 2012 in an amount of \$110.19 million and became effective on 31 May 2013. Tranche 1 physical outputs are 75 km of transmission lines and 1,100 MVA of transformer capacity. Tranche 2 physical outputs are 465 km of transmission lines. Three of the four tranche 1 subprojects and all three tranche 2 subprojects will be completed on or ahead of schedule. One tranche 1 subproject is behind schedule due to procurement delays and will require a one year loan extension. Tranche 2 is on track.

5. Tranche 3 will supplement the physical investments of tranche 1 and tranche 2 by adding 194 km of transmission lines and 3,825 MVA of transformer capacity. On 9 October 2015, the government submitted a periodic financing request for financing tranche 3.<sup>3</sup>

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<sup>1</sup> Per capita electricity consumption increased from 156 kilowatt-hours (kWh) in 1995 to 1,285 kWh in 2013 when consumption breakdown by sector was: industrial (52.4%), residential (36.7%), commercial (4.7%), agriculture (1.3%), and other (4.9%). The industrial sector is the largest consumer projected by 2015 to account for 41% of GDP, 29% of the workforce, and 87% of export revenues. Electricity demand elasticity with respect to Gross Domestic Product was 1.74 over the period 2010–2013.

<sup>2</sup> ADB. 2011. *Report and Recommendation of the President to the Board of Directors on a Proposed Multitranche Financing Facility to the Socialist Republic of Viet Nam for the Power Transmission Investment Program*. Manila (MFF 0066).

<sup>3</sup> Periodic Financing Request (accessible from Appendix 1).

## II. ASSESSMENT OF MFF IMPLEMENTATION

### A. Road Map, Strategy and Sector Reform Framework

6. The PDMP VII which covers the period 2011–2020 and has projections to 2030, comprises an investment plan for the transmission subsector covering physical infrastructure, sector performance improvement measures, and a sector reform framework (non-physical investments) to ensure sustainability of investments.

7. **Road Map Implementation: Physical Investments.** Between 2011 and 2014, NPT invested \$1.6 billion to add 2,563 km of 500 kilovolt (kV) transmission lines, 2,221 km of 220 kV transmission lines, 9,000 MVA of 500 kV/220 kV substation transformer capacity and 6,500 MVA of 220 kV/110 kV substation transformer capacities to the transmission network. NPT's investment plan for 2015–2019 as approved through PDMP VII aims to expand the transmission network by 3,584 km of 500 kV transmission lines, 3,696 km of 220 kV transmission lines, 13,050 MVA of 500 kV/220 kV substation transformer capacity and 28,045 MVA of 220 kV/110 kV substation transformer capacity.

8. **Road Map Implementation: Non-Physical Investments.** Viet Nam continues to demonstrate strong commitment to creating a competitive, transparent power market and broadening the ownership in the sector. The Viet Nam competitive power generation market (VCGM) was officially introduced in July 2012. Monitoring and assessment of the VCGM concluded that it has been operating largely according to the market rules. Viet Nam is now transitioning to establish a competitive Viet Nam wholesale electricity market (VWEM) with a two-year pilot phase introduced in July 2015. The VWEM is scheduled to be in full operation by 2017. Since 2011, the electricity retail tariff has been raised by 33% to D1,622/kilowatt-hour (kWh) and the transmission charge has been raised by 22.4% to D102/kWh.

### B. Assessment of Investment Program Implementation

9. **Output 1: Expanded Transmission Network.** Under output 1 of tranche 1 and tranche 2, 462.6 km of 500 kV, 49.3 km of 220 kV transmission line, and 500 MVA of substation transformer capacity have been energized. The construction of the remaining 28.2 km of 220 kV transmission line will be completed on or ahead of schedule by December 2015. Due to procurement delays, completion of the 500/220 kV Pho Noi substation under tranche 1, representing 600 MVA of substation transformer capacity, is scheduled to be completed in June 2016 requiring the original loan closing date of 31 December 2015 to be extended by one year.

10. **Output 2: Improved Operational Effectiveness and Efficiency.** NPT has not yet used the allocation under tranche 1 and tranche 2 but prioritized technical assistance support from ADB and other development partners and its own funds to strengthen staff capacity in various operational areas including finance, planning, and project management.<sup>4</sup> Discussions with NPT management on output of capacity building for tranche 3 were held. It was agreed that this output would be retained in the facility but be deferred to tranche 4 to allow time for NPT consideration of the options. It was agreed that a significant scope of capacity building to improve operational effectiveness and efficiency would be included in tranche 4 (refer to para. 11). Meanwhile it is noted that the targeted outcome of output 2 will be achieved as NPT's financial performance is progressively improving. NPT generated profits of D345 billion in 2014. Return on equity in 2014 was 1.7%, compared to 0.0% in 2012. Operating margins improved

<sup>4</sup> The government of Viet Nam encourages that other resources than official development assistance (ODA) is prioritized for capacity building so that ODA resources can be allocated for infrastructure projects.



from 17.9% to 23.1% over the same period. This is a departure from NPT's net losses incurred from 2008–2011.

11. For tranche 3, NPT continues to assess its capacity building needs and wishes to defer output 2 until tranche 4, for approval in 2016, when a significant scope of capacity building will be proposed. In addressing the capacity building for tranche 4, NPT will ensure full coordination among development partners to avoid unnecessary duplication of resources

12. **Output 3: Project Implementation Support.** Output 3 of tranche 1 and tranche 2 provided project implementation support with focus on safeguard compliance.<sup>5</sup> NPT and the respective power project management boards (PPMBs)<sup>6</sup> established social and environmental safeguard units. Staff of these units received support and on-the-job training from consultants on preparing and implementing environmental and social safeguard measures. For tranche 3, NPT and ADB agreed to continue engaging consulting services to provide on-the-job training in implementing safeguard measures and documents.

13. **Contract Awards.** Contracts have been awarded for all ADB-funded procurement packages under both tranche 1 and tranche 2. In comparison to previous energy subprojects supported by ADB under tranche 1 and tranche 2 the number of procurement contracts was substantially reduced from a high of 10 to an average of 3 contracts per subproject which contributed to the efficient implementation.

14. Nevertheless, delays in procurement activities have been identified which were mainly caused by lengthy approval procedures within NPT and multiple revisions of bid evaluation reports before ADB could issue its no-objection. To minimize delays under tranche 3, ADB and NPT have commenced preparation of master bidding documents for goods and civil works packages. Furthermore, the size of civil work contracts that local contractors may competitively bid for and supply contracts that may be filled by local suppliers and industries as well as the contractual experience requirement has been set in accordance with the capacity of local contractors and local suppliers.<sup>7</sup>

15. **Disbursement.** As a result of the (i) unutilized allocations for the unallocated category for both tranches and (ii) goods and works category under tranche 2, on 11 March 2015, ADB approved partial cancellations of both loans.<sup>8</sup> Disbursements are shown in Table 1.

**Table 1: Tranche 1 and Tranche 2 Disbursements**

Tranche Number	Original Loan Amount (\$ million)	Cancelled Loan Amount (\$ million)	Revised Loan Amount (\$ million)	Cumulative Disbursement as of 30 November 2015 (\$ million)	Disbursement as a Portion of Revised Loan (%)
1	120.50	15.99	104.51	67.63	64.71
2	110.19	41.61	68.58	56.66	82.62

<sup>5</sup> NPT financed project implementation consultants who provided support in the finalization of detailed engineering design and supervised the construction of the transmission lines and substations.

<sup>6</sup> The PPMBs are the implementing agencies for Output 1 and Output 3 of the investment program.

<sup>7</sup> The size of work contracts is on average \$10 million. The size of supply of steel tower contracts is on average \$7 million. The type of these contracts is repetitive and contiguous works. To maximize the pool of potential bidders and minimize the risks of re-bidding, bidders for work contracts and steel towers will be required to submit at least one similar contract where the value represents at least 65% of the estimated value for the package. Other contracts will apply the ADB standards threshold of 80%.

<sup>8</sup> The savings resulted from contract prices being below budget. As per Operations Manual Section D14/OP paragraph 43, any amount under an individual tranche that is cancelled will replenish the overall facility by an equivalent amount.

16. **Compliance with Legal Agreements and Undertakings of the FFA.** NPT was in compliance with ADB loan covenant ratios for 2013. NPT also remained in compliance in 2014 except for the 13.9% self-financing ratio, which was below the covenant ratio of 20%.<sup>9</sup> The government is in compliance with all the facility undertakings. Transmission charges have increased and an asset revaluation of D15,000 billion in 2012 improved the financial situation of NPT. The annual audited financial statements were submitted by NPT in June of each implementation year. In terms of safeguard covenants, all bidding documents for works contained the required safeguard-related provisions. In general, updated resettlement plans have been submitted to ADB for approval prior to land acquisition.

### III. PERIODIC FINANCING REQUEST

#### A. Impact and Outcome

17. The impact of Tranche 3 of the investment program is that it will contribute to meeting electricity demand growth of industrial, commercial and residential consumers throughout Viet Nam by 2025. The outcome of tranche 3 is the enhanced capacity of the transmission network to balance power load.

#### B. Outputs

18. **Output 1: Expanded Transmission Network.** The output encompasses the construction of 2 substations, 2 transmission lines, and the extension of 5 existing substations located in southern Viet Nam, namely: (i) 500 kV Chon Thanh substation; (ii) 500 kV Duc Hoa substation and connections; (iii) 500 kV My Tho–Duc Hoa transmission line; (iv) 220 kV Binh Long–Tay Ninh transmission line; (v) extension of 220 kV Duc Hoa substation; (vi) extension of 500 kV Cau Bong substation; (vii) extension of 220 kV Vung Tau substation; (viii) extension of 220 kV Tra Vinh substation; and (ix) extension of 220 kV Uyen Hung substation. This will result in 500 kV transmission lines being expanded by 67.33 km, 220 kV transmission lines expanded by 126.20 km, 500 kV/220 kV substation transformer capacity expanded by 2,700 MVA, and 220 kV/110 kV substation transformer capacity expanded by 1,125 MVA.

19. **Output 2: Improved Operational Effectiveness and Efficiency of NPT.** This output is deferred until the final tranche 4 of the facility when a capacity building will be prepared to meet NPT needs while taking due note of capacity building measures being implemented by development partners.

20. **Output 3: Project Implementation Support.** The third output of tranche 3 will support project implementation with a focus on construction management and safeguards compliance.

#### C. Investment and Financing Plans

21. The government has requested a loan of \$231.31 million from ADB's ordinary capital resources to finance tranche 3. The loan will have a 30-year term, including a grace period of 7 years (straight-line principal payment method), an annual interest rate determined in

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<sup>9</sup> In 2012, NPT entered into a bridging loan while waiting for Ministry of Finance to approve a guarantee for long-term financing. In 2014, this bridging loan was re-financed through a long-term term financing. As a result of this one-time transaction, the self-financing ratio was at 13.9% in 2014. Without this transaction, the self-financing ratio would have been 21.0%.

accordance with ADB's London interbank offered rate (LIBOR)-based lending facility,<sup>10</sup> a commitment charge of 0.15% per year, and such other terms and conditions set forth in the loan and project agreement. Based on this the average loan maturity is 18.75 years and the maturity premium payable to ADB is 0.20% per annum. Interest and other charges during construction will be capitalized in the loan. The government will act as the borrower and relend to NPT under the same terms and conditions. A Vietnamese commercial bank, to be nominated by Ministry of Finance, will provide appraisal and loan administration services.

22. The government has requested KfW to provide €65 million of collaborative parallel cofinancing to finance the construction of six transmission network subprojects. The KfW-financed subprojects are located in the northern region while ADB-financed subprojects are located in the central and southern regions. The KfW cofinancing will not be administered by ADB but contributes to the overall project outcome.

23. ADB's tranche 3 loan proceeds will finance equipment and civil works for the (i) 500 kV Chon Thanh substation; (ii) 500 kV Duc Hoa substation and connections; (iii) 500 kV My Tho-Duc Hoa transmission line; (iv) 220 kV Binh Long-Tay Ninh transmission line; and (v) extensions (excluding supply of 220 kV transformers) of five existing substations. ADB financing includes contingencies, financing charges during implementation, and services for safeguard support with regard to output 3.<sup>11</sup>

24. NPT will finance the supply and installation of 220 kV transformers for the five substation extensions, taxes and duties, land acquisition, costs for safeguard mitigation measures, and services for construction management.

25. Tranche 3 of the investment program is estimated at \$307.7 million (Table 2).<sup>12</sup>

**Table 2: Tranche 3 Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A</b>	<b>Base Cost<sup>b</sup></b>
	1. Output 1: Expanded Transmission Network
	2. Output 3: Project Implementation Support
	<b>Subtotal (A)</b>
<b>B.</b>	<b>Contingencies<sup>c</sup></b>
<b>C.</b>	<b>Financing Charges During Implementation<sup>d,e</sup></b>
	<b>Total (A+B+C)<sup>f</sup></b>
	<b>307.70</b>

<sup>a</sup> Includes taxes and duties of \$24.65 million to be financed by NPT through cash contribution.

<sup>b</sup> In mid-2015 prices.

<sup>c</sup> Physical contingencies computed at 5% for civil works, and 2%–3% for equipment, research and development, training, surveys and studies. Price contingencies computed using inflation rates of 0.3% for 2015, 1.5% for 2016, 1.4% for 2017 and 1.5% for 2018-2019 for foreign currency costs, and 2.5% for 2015, 4% for 2016 and 5% for 2017-2019 for local currency costs.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for the ADB loan has been computed at the 5-year forward London interbank offered rate plus a contractual spread of 0.50% and a maturity spread of 0.20%. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

<sup>e</sup> The Ministry of Finance will appoint a commercial bank which will provide appraisal, and loan administration services. The relending spread from Ministry of Finance to NPT will include a 0.25% surcharge. The premium for the commercial bank will be determined once the commercial bank has been selected. The commercial bank premium is assumed at 0.9% in internal rate of return calculations but will not exceed 1.0%.

<sup>f</sup> Numbers may not add up due to rounding.

<sup>10</sup> The interest includes a maturity premium of 0.20%. This is based on the above loan terms and the government's choice of repayment options and dates.

<sup>11</sup> Transportation and insurance costs may also be financed by the ADB loan.

<sup>12</sup> Detailed cost estimates by expenditure category and financier are included in the updated Facility Administration Manual (accessible from Appendix 3).

26. The financing plan is in Table 3.

**Table 3: Tranche 3 Financing Plan**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	231.31	75.18
Government	76.38	24.82
<b>Total</b>	<b>307.70<sup>a</sup></b>	<b>100.00</b>

Sources: Asian Development Bank and National Power Transmission Corporation estimates.

<sup>a</sup> Numbers may not add up due to rounding.

#### D. Implementation Arrangements

27. The implementation arrangements are summarized in Table 4 and described in detail in the updated facility administration manual (footnote 12).

**Table 4: Implementation Arrangements**

Aspects	Arrangements		
Implementation period	December 2015–December 2019		
Estimated completion date	Physical completion 31 December 2019, loan closing 30 June 2020		
Management			
(i) Oversight bodies	Ministry of Industry and Trade (MOIT) and VietNam Electricity (EVN)		
(ii) Executing agency	National Power Transmission Corporation (NPT)		
(iii) Key implementing agencies	Output 1 and 3: Central and Southern Power Project Management Boards		
Procurement (18-month schedule)	Works	9 contracts by international competitive bidding	\$101 million
	Goods	12 packages by international competitive bidding	\$93 million
	Goods	2 packages by direct contracting	\$1.8 million
	Goods <sup>a</sup>	Procured in accordance with NPT regulations	\$5.32 million
Consulting Services	Project implementation support (safeguards)	48 person-months, individual consultant selection	\$0.30 million
	Project implementation support <sup>a</sup>	Procured in accordance with NPT regulations	\$10.6 million
	Procurement of goods, works, and services financed from the Asian Development Bank (ADB) loan proceeds will be in accordance with ADB's Procurement Guidelines (2015, as amended from time to time) and Guidelines on the Use of Consultants (2013, as amended from time to time).		
Retroactive financing and/or advance contracting	Retroactive financing is available for up to 20% of the ADB loan amount for advance contracts for eligible expenditures that include civil works, goods, and consulting services.		
Disbursement	Loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2015, as amended from time to time) and detailed arrangements agreed upon between the government and ADB. The direct payment procedure will be used.		

<sup>a</sup> Financed entirely by NPT.

Sources: ADB and NPT.

#### E. Project Readiness

28. To facilitate project readiness and expedite implementation of tranche 3, NPT will have the detailed technical engineering designs approved by January 2016 for the (i) 500 kV Duc Hoa substation and connections; and (ii) 500 kV My Tho–Duc Hoa transmission line. The detailed technical engineering design for the other subprojects will be approved by NPT during first quarter of 2016. Procurement activities will be at an advanced stage with master bidding documents prepared and agreed. It is envisioned that invitation for bids for the (i) 500 kV Duc

Hoa substation and connections; and (ii) 500 kV My Tho–Duc Hoa transmission line will be issued during first quarter of 2016 and for the other subprojects during second quarter of 2016.

29. NPT shall have the option to apply for advance contracting and retroactive financing for eligible expenditures for consulting services, goods, and civil works to be financed by ADB incurred before loan effectiveness, but not more than 12 months before signing the loan agreement up to a maximum 20% of the total ADB loan amount for tranche 3. The government and NPT were advised that approval of advance contracting and retroactive financing does not constitute a commitment to finance the project.

#### **IV. DUE DILIGENCE**

##### **A. Technical**

30. The development of the power transmission system is determined by the location of existing and new power plants. The Institute of Energy, under the Ministry of Industry and Trade, carries out studies on least-cost generation and transmission expansion for the country using an integrated resource planning approach. Engineering design and power system calculations ensure robust and optimal transmission network development based on internationally proven extra-high-voltage alternating-current transmission technology. ADB and the project preparatory technical assistance consultants reviewed the feasibility studies and engineering designs for transmission subprojects financed under tranche 3 and confirmed their technical viability.<sup>13</sup>

##### **B. Economic and Financial Analysis**

31. Subprojects appraised for tranche 3 are economically and financially viable. The economic internal rate of return is 33.1%. The financial internal rate of return for the nine subprojects ranges from 8.4% to 57.8% while the overall tranche return is 19.8% with a weighted average cost of 3.21%. The economic and financial internal rates of return exceed the required thresholds and the net present values are positive. Sensitivity analysis indicates that subprojects' economic and financial internal rates of return are viable under stressed conditions. The subprojects generate a net financial and economic surplus.<sup>14</sup>

32. Through the facility undertakings, the government ensured that the transmission charge was set and implemented and/or additional financial restructuring measures were undertaken so that NPT can progressively achieve the financial performance objectives of: (i) debt-service-coverage ratio of 1.5; (ii) self-financing ratio of 25%; and (iii) debt-to-equity ratio of 75:25 by 2015, and maintain these thereafter. The transmission charge has been increased by 22.4% since 2011 and a revaluation of NPT's assets at D15,000 billion was effected in 2012 to raise NPT's equity to D22,000 billion. NPT was in compliance with ADB loan covenant ratios for the fiscal year 2013. In 2014, NPT remained in compliance except for the 13.9% self-financing ratio, which was below the covenant ratio of 20% under loan covenants for tranches 1 and 2.

##### **C. Governance**

33. A financial management, procurement, and implementation capacity assessment of NPT and the PPMBs concluded that the executing and implementing agencies have adequate

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<sup>13</sup> ADB. 2010. *Technical Assistance to the Socialist Republic of Viet Nam for Preparing the Power Transmission Investment Program*. Manila.

<sup>14</sup> Economic Analysis and Financial Analysis (accessible from Appendices 4 and 5).

financial accounting, audit and reporting, procurement, and implementation arrangements in place for implementing the tranche 3 of the investment program.

34. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and NPT. The specific policy requirements and supplementary measures are described in the facility administration manual.

#### **D. Poverty, Social and Gender Dimensions**

35. There are no affected households living in poverty impacted by the construction of the subprojects. Female headed households constitute 28% and ethnic minority households constitute 1% of the total 1,716 households affected by the construction of the transmission lines and substations. Tranche 3 ensures that all affected households are consulted and compensated irrespective of ethnicity, gender of household head, or other conditions of vulnerability.<sup>15</sup> Therefore, the project has no gender elements.

36. At the sector level, the construction of the transmission lines is likely to benefit the poor through increased demand for labor resulting from improved electricity supply to industrial and commercial employers in urban and peri-urban areas. Demand for labor will increase incomes and remittances from migrant labor and thus, mitigating the income vulnerability of urban and rural households. While electricity tariffs need to be increased to ensure the ability of power sector entities to finance the large investments required, the government is committed to continuing efforts to develop and effectively implement appropriate tariff structures and social safety measures to ensure equal socioeconomic development over the term of the power transmission investment program.

#### **E. Safeguards**

37. The government and NPT endorsed the environmental assessment and review framework and the resettlement and ethnic minority development framework prepared for the investment program in accordance with ADB's Safeguard Policy Statement (2009) and Viet Nam's regulations and guidelines. The two frameworks were disclosed on ADB's website in November 2011.

38. **Environment.** All the subprojects of tranche 3 are classified as Category B for environment. For each of the nine subprojects, an initial environmental examination (IEE) was undertaken which identified the potential environmental impacts and provided mitigating measures to address them in an Environmental Management Plan (EMP) with their respective implementation budget. The mitigation measures are consistent with international good practice, as reflected in internationally recognized standards, that is, the World Bank Group's Environmental, Health and Safety Guidelines. None of the outputs is near a protected area, nature reserve or critical habitat. The land use in the affected areas is dominated by rubber trees, paddy rice, other agricultural crops, and fruit bearing trees. There are no known avian migration flyways in the areas with which the transmission lines could interfere. The main impacts on the subproject areas are the short-term construction disturbances of increased traffic and risk of traffic accidents and operation-related impacts and risks such as health and safety risks to workers and persons living near the transmission lines and substations. The construction phase will also potentially create dust and noise along the roads and vicinity due to construction vehicles and operation of heavy civil works equipment. These impacts along with

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<sup>15</sup> Updated Summary of Poverty Reduction and Social Strategy (accessible from Appendix 6).

the common issues of construction solid and liquid waste pollution, worker camp issues, and increased risk of worker and public injury can be managed with international standard best practices and management guidelines. There was adequate public consultation to several stakeholders and affected communities and a Grievance Redress Mechanism was developed to resolve complaints from affected people. As part of the IEE, environmental compliance audit of eight associated/existing facilities was also undertaken. Currently the PPMBs' experience and capacity for the implementation of the EMP are insufficient. The PPMBs will facilitate trainings to their staff and the contractors to strengthen the ability to implement and monitor the EMP measures and corrective actions proposed by the compliance audit. The draft IEEs have been disclosed on ADB website.<sup>16</sup> The final IEEs<sup>17</sup> will be disclosed upon receipt.

39. **Resettlement and indigenous peoples.** The safeguard category for tranche 3 is A for involuntary resettlement and B for indigenous peoples. A total of 1,716 households will be affected in the 5 subprojects requiring land acquisition. Of this number of affected households, 73 are severely affected by the loss of 10% or more of their productive assets, while 139 are relocating their dwellings on their unaffected landholdings outside of the subproject right-of-way (ROW). Nineteen (19) ethnic minority Khmer and Stieng households are affected, all marginally, by the loss or restricted use of their lands in the project ROW. A separate resettlement plan (RP) has been prepared for the (i) 500 kV Duc Hoa substation and three connecting transmission lines, (ii) 500 kV Chon Thanh substation, and (iii) 220 kV/110 kV Vung Tau substation. Each of the subprojects is located in only one province. On the other hand, two RPs have been prepared for the 500 kV My Tho–Duc Hoa transmission line because the subproject is located across two provinces. Similarly, two resettlement and ethnic minority development plans (REMDPs) have been prepared for the 220 kV Binh Long–Tay Ninh transmission line because the subproject, where ethnic minority households are affected, crosses two provinces. The REMDPs and RPs have been disclosed on ADB's website.

40. ADB also undertook 7 due diligence reports (DDRs) covering the extensions for the four substations, 220 kV Ba Ria–Vung Tau Transmission Line, 220 kV Tay Ninh Substation, and 500 kV My Tho Substation, where a second transformer unit each is being proposed. Each of these existing substations is an associated facility of the proposed installation of a second transformer unit. Another DDR has been prepared for the Ba Ria–Vung transmission line which is an associated facility of the 220 kV/110 kV Vung Tau substation subproject. The DDRs including a corrective action plan, have been disclosed on ADB's website.

41. Social safeguard units supported by individual national consultants have been formed within NPT and each PPMB to supervise implementation and assure compensation to affected people in accordance with the approved REMDPs, RPs and corrective action plans. Implementation will be independently monitored.

## F. Risks and Mitigating Measures

42. Major risks and mitigating measures are summarized in Table 5 and described in detail in the risk assessment and risk management plan.<sup>18</sup> These risks are assessed as moderate. The project's integrated benefits and impacts are expected to outweigh the costs.

<sup>16</sup> Initial Environmental Examination Reports (accessible from Appendix 9).

<sup>17</sup> If no revision is made to the draft IEEs, they are treated as final documents.

<sup>18</sup> Risk Assessment and Risk Management Plan (accessible from Appendix 7).

**Table 5. Summary of Risks and Mitigating Measures**

<b>Risks</b>	<b>Mitigating Measure</b>
Implementation delays caused by lengthy approval processes for tranche effectiveness, land clearance and compensation, and implementation of procurement activities	Readiness for implementation ensured with detailed technical designs, government approvals, master bidding documents, and advanced procurement and implementation processes; regular review missions conducted for the timely addressing of potential problems; the government and NPT informed that delays may lead to facility suspension or cancellation
Tendency to structure procurement packages into small contracts, undermining efficiency and competitiveness	Procurement plan prepared and implemented considering an appropriate number of procurement contracts for subprojects in line with local and international market capacity
Network expansion delays caused by limited financing capacity of NPT and therefore undermining development impact	Support provided to strengthen NPT management and staff capacity in financial management, planning, and control; government committed through PDMP VII and facility undertakings, to ensuring that transmission charges are set such that NPT can sustain financial performance objectives of a (i) debt-service-coverage ratio of 1.5; (ii) self-financing ratio of 25%; and (iii) debt-to-equity ratio of 75:25
Implementation delays caused by construction delays of associated power generation and transmission projects not financed by ADB.	The selection process will take into consideration the time frame of directly associated facilities. The sequencing of the investment program will allow flexibility to react on changes in the commissioning of generation projects and load forecast.
Anticipated and required increases in retail tariffs may have adverse impacts on the lower-income populations	The government committed, through PDMP VII and facility undertakings, to continuing the implementation of social safety measures for lower-income households adversely affected by tariff increases
The corrupt procurement of goods, works, and consulting services	The procurement and recruitment of consultants financed by ADB loan proceeds to follow ADB Procurement Guidelines and ADB Guidelines for the Use of Consultants

Source: Asian Development Bank.

## **G. Risk Categorization**

43. The risk category for tranche 3 is complex as the safeguard categorization for involuntary resettlement is A and the loan amount is above \$200 million. Safeguard documents have been prepared in accordance with ADB's Safeguard Policy Statement (2009) and Viet Nam's regulations and guidelines. NPT endorsed the safeguard documents and implementation will be independently monitored.

## **V. ASSURANCES AND CONDITIONS**

44. The government and NPT have assured ADB that implementation of the tranche 3 project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the updated facility administration manual and loan documents.

45. The government and NPT have agreed with ADB on certain covenants for tranche 3, which are set forth in the draft loan agreement and project agreement.

## **VI. RECOMMENDATION**

46. On the basis of the approval by ADB Board of Directors for the provision of loans under the multitranchise financing facility in an aggregate principal amount not exceeding \$730,000,000 to the Socialist Republic of Viet Nam for the Power Transmission Investment Program, it is recommended that the President approve the proposed tranche as described in paragraph 21 and the draft loan and project agreement for the proposed tranche substantially in the form attached to this report.