

**ASIAN DEVELOPMENT BANK**

**PCR: PHI 31216**

**PROGRAM COMPLETION REPORT**

**ON THE**

**POWER SECTOR RESTRUCTURING PROGRAM**  
**(Loan 1662-PHI)**

**IN THE**

**PHILIPPINES**

**July 2004**

## CURRENCY EQUIVALENTS

Currency Unit	–	Philippine peso (P)
	<b>At Approval</b>	<b>At Program Completion</b>
	November 1998	December 2002
P1.00	= \$0.0255	\$0.0188
\$1.00	= P39.20	P53.20

## ABBREVIATIONS

ADB	–	Asian Development Bank
DOE	–	Department of Energy
DOF	–	Department of Finance
DSM	–	demand-side management
EPIRA	–	Electric Power Industry Reform Act
ERC	–	Energy Regulatory Commission
GDP	–	gross domestic product
GENCO	–	Generation Company
IMF	–	International Monetary Fund
IPP	–	independent power producer
IRRs	–	Implementing rules and regulations
JBIC	–	Japan Bank for International Cooperation
LRMC	–	long-run marginal cost
MERALCO	–	Manila Electric Company
NEA	–	National Electrification Administration
NPC	–	National Power Corporation
PCG	–	partial credit guarantee
PSALM	–	Power Sector Assets and Liabilities Management Corporation
PSRP	–	Power Sector Restructuring Program
REC	–	rural electrification cooperative
RORB	–	return on rate base
SPUG	–	Small Power Utilities Group
TA	–	technical assistance
TRANSCO	–	National Transmission Corporation

## WEIGHTS AND MEASURES

GWh	–	gigawatt-hour
KWh (kilowatt-hour)	–	unit of energy
MVA (megavolt-ampere)	–	unit of apparent power
MW (megawatt)	–	unit of power, equal to 1 million watts

## NOTES

- (i) The fiscal year of the Government ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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## BASIC DATA

### A. Loan Identification

1.	Country	Philippines
2.	Loan Number	1662-PHI
3.	Program Title	Power Sector Restructuring Program
4.	Borrower	Republic of the Philippines
5.	Executing Agency	Department of Finance
6.	Amount of Loan	\$300 million
7.	Program Completion Report Number	PCR: PHI 31216

### B. Loan Data

1.	Appraisal – Date Started – Date Completed	Waived
2.	Loan Negotiations – Date Started – Date Completed	19 November 1998 20 November 1998
3.	Date of Board Approval	16 December 1998
4.	Date of Loan Agreement	21 December 1998
5.	Date of Loan Effectiveness – In Loan Agreement – Actual – Number of Extensions	21 March 1999 24 December 1998 0
6.	Closing Date – In Loan Agreement – Actual – Number of Extensions	30 September 2000 31 December 2002 2
7.	Terms of Loan – Interest Rate – Maturity (number of years) – Grace Period (number of years)	Pool-based variable lending rate, and a commitment charge of 0.75% per annum with a repayment period of 15 years including a grace period of 3 years. Effective 28 November 2002, undisbursed balance was transformed to a London interbank offered rate-based lending facility.

#### 8. Disbursements

##### a. Dates

Initial Disbursement	Final Disbursement	Time Interval
24 December 1998	29 November 2002	47 months
Effective Date	Original Closing Date	Time Interval
24 December 1998	30 September 2000	21 months

## b. Amount (\$ million)

Category or Subloan	Original Allocation	Last Revised Allocation	Amount Canceled	Net Amount Available	Amount Disbursed	Undisbursed Balance
01 PSRP	300		0	300	300	0
<b>Total</b>	<b>300</b>		<b>0</b>	<b>300</b>	<b>300</b>	<b>0</b>

PSRP = Power Sector Restructuring Program.

## C. Program Data

## 1. Program Cost (\$ million)

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost	600	600
Local Currency Cost	0	0
<b>Total</b>	<b>600</b>	<b>600</b>

## 2. Financing Plan (\$ million)

Cost	Appraisal Estimate	Actual
Implementation Costs		
Borrower-Financed	0	0
ADB Financed	300	300
Other External Financing (JBIC)	300	300
<b>Total</b>	<b>600</b>	<b>600</b>

ADB = Asian Development Bank, JBIC = Japan Bank for International Cooperation.

## 3. Program Performance Report Ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
From 1 January 1999 to 31 December 1999	S	PS
From 1 January 2000 to 31 December 2000	S	U
From 1 January 2001 to 31 December 2001	PS	PS
From 1 January 2002 to 31 December 2002	S	PS

S = Satisfactory, PS = Partly Satisfactory, U = Unsatisfactory.

**D. Data on Asian Development Bank Missions<sup>1</sup>**

<b>Name of Mission</b>	<b>Date</b>	<b>No. of Persons</b>	<b>No. of Person-Days</b>	<b>Specialization of Members</b>
Fact-Finding Mission	16 March–3 April 1998	10	209	a, b, c, d, e, f, g, h, i, m
Appraisal Mission <sup>2</sup>	Waived			
Review Mission 1	8 March 1999	1	1	a
Review Mission 2	27 July 1999	2	2	a, g
Review Mission 3	15 November 1999	3	3	a, c, k
Review Mission 4	2–3 December 1999	1	2	a
Review Mission 5	2 February 2000	6	6	a, c, d, j, k, l
Review Mission 6	22–23 August 2001	5	10	a, c, d, j, k
Review Mission 7	6 September 2001	1	2	a
Review Mission 8 (Progress Report for 2 <sup>nd</sup> Tranche Release)	October–November 2001	3	18	a, m, f
Review Mission 9 (Progress Report for 3 <sup>rd</sup> Tranche Release)	September–November 2002	3	18	a, m, f
Program Completion Review	5–13 April 2003	1	9	m

<sup>1</sup> In addition to the formal review missions, the proximity of the Asian Development Bank's headquarters to the Borrower and the Executing Agency permitted continuous liaison to address key policy issues whenever necessary during the processing and implementation of the Power Sector Restructuring Program.

<sup>2</sup> The waiver of a formal appraisal mission was approved by Management Review Meeting in May 1998.

a = financial analyst, b = social development specialist, c = economist, d = program economist, e = program engineer, f = counsel, g = programs officer, h = young professional, i = staff consultant, j = director, k = deputy director, l = manager, m = energy specialist.

## I. PROGRAM DESCRIPTION

1. In the early 1990s, Luzon experienced severe power shortages, leading to prolonged blackouts and adverse impacts on the economy. With the Government's support, the National Power Corporation (NPC) and Manila Electric Company (MERALCO) contracted independent power producers (IPPs) to resolve the power crisis. However, the Asian financial crisis in 1997–98 suppressed economic growth and reduced electricity demand, leading to significant surplus power-generating capacity, especially in Luzon. NPC's debt service burden has spiraled upward due to the lack of government equity inputs for its capital expansion programs, NPC's heavy reliance on debt financing, and depreciation of the peso against foreign currencies in NPC's debt portfolio as NPC's long term debt is mainly denominated in foreign currency. Moreover, the IPP contracts included high cost premiums because of perceived investor risks in the early 1990s. Transmission bottlenecks, mainly due to delays in obtaining the right-of-way for construction of new lines, have aggravated NPC's financial performance as NPC needs to pay fixed capacity charges to IPPs even if it does not use the electricity supply. In 1997, NPC's rate of return on rate base (RORB) and debt service ratio fell below the covenanted 8% and 1.0, respectively. A combination of these problems has resulted in Philippine power rates being one of the highest in the region.

2. To address these problems, the Government decided to restructure and privatize the electric power industry. At the end of 1998, the Asian Development Bank (ADB) approved a loan to the Republic of the Philippines for the Power Sector Restructuring Program (PSRP).<sup>1</sup> The principal objective of the PSRP was to create competitive electricity markets by unbundling generation and transmission and providing open and equal access to transmission and distribution. The PSRP also aimed to restore NPC's financial sustainability in the period prior to privatization, and to achieve operational improvements and increased efficiencies in distribution operations. The Government confirmed its commitment to the program objective through its development policy letter dated 20 November 1998 and the agreed policy matrix (Appendix 1) outlining the actions and the timetable for achieving these. Specifically, the PSRP aims at (i) creating an enabling legal and regulatory environment to support competitive electricity markets, (ii) restoring the financial viability of NPC prior to privatization, (iii) unbundling and corporatizing NPC's operations to facilitate the introduction of competitive electricity markets, (iv) establishing the open access transmission and distribution systems needed to support competitive electricity markets, (v) improving the operational efficiency of the distribution subsector to enable it to actively participate in competitive markets, (vi) promoting energy efficiency and demand-side management to supplement efficiency gains from competitive markets, (vii) mitigating the social impact of the transition to competitive markets, and (viii) ensuring environmentally sustainable power generation.

3. Technical assistance (TA) for (i) electricity pricing and regulatory practice in a competitive environment<sup>2</sup> and (ii) consumer impact assessment<sup>3</sup> accompanied the PSRP. The Japan Bank for International Cooperation (JBIC)<sup>4</sup> also approved a loan of \$300 million to

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<sup>1</sup> ADB. 1998. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Republic of the Philippines for the Power Sector Restructuring Program*. Manila (for \$300 million, approved on 16 December 1998).

<sup>2</sup> ADB. 1998. *Technical Assistance to the Republic of the Philippines for Electricity Pricing and Regulatory Practice in a Competitive Environment*. Manila (for \$600,000, approved on 16 December 1998).

<sup>3</sup> ADB. 1998. *Technical Assistance to the Republic of the Philippines for Consumer Impact Assessment*. Manila (for \$720,000, approved on 16 December 1998).

<sup>4</sup> Formerly The Export-Import Bank of Japan.

support the Program. Further, on 4 December 2002, ADB approved a partial credit guarantee (PCG) on yen bonds to be issued by the Power Sector Assets and Liabilities Management Corporation (PSALM) for an amount of up to \$500 million equivalent. The purpose of the PCG was to sustain the progress achieved under the PSRP and help PSALM mobilize the necessary resources to meet the cash-flow mismatch prior to the privatization of NPC.

## **II. EVALUATION OF DESIGN AND IMPLEMENTATION**

### **A. Relevance of Design and Formulation**

4. At the time of program design and formulation, the Government was facing major financial and institutional constraints, which hindered its ability to manage the electric power industry in a stable, efficient, and cost-effective way. These constraints intensified as a result of the Asian financial crisis (para. 1). Urgent action was needed to ensure the sustainable development of the power sector and remove the heavy burden from public finances. Direct government funding would have meant larger deficit financing and increased taxes, which would have affected the economic growth of the country.

5. ADB's involvement with the restructuring and privatization program began as early as 1994 when policy dialog was initiated with the Government concerning NPC's restructuring and privatization plan. An ADB-funded panel of experts reviewed the Government's plan to ascertain if the plan was well structured and was in accordance with international best practices (particularly those experiences in countries that had a similar market size to the Philippines), and was capable of implementation. The adopted PSRP was far reaching and required radical actions in a number of areas (para. 2). The Program included 60 policy actions, of which 27 are core conditions for tranche releases to be implemented over 3 years of the program period. Some of the policy actions appeared to be diffused, such as measures relating to demand-side management, and did not have a direct impact on the main objectives of the PSRP. In view of the complexity of the PSRP and the capacity of the Government to implement this unprecedented reform program, the designed implementation period was insufficient, which also led to the underestimation of adjustment cost during the extended program implementation period. Such risks were not explicitly identified during the processing stage.

6. The design and formulation of PSRP were generally relevant to the country's overall development needs at the time of appraisal and at the time of loan closing. However, the PSRP as it was designed was extremely ambitious, because implementation of fundamental power sector restructuring and reform leading to full competition involves a large number of actions that have to be properly prioritized and sequenced. On the one hand, the Program overestimated the Government's, utilities', and other entities' capacity to implement the policy actions effectively; on the other, the Program underestimated the magnitude of NPC's stranded debt and the complexity of its resolution at a time of high and unsustainable fiscal deficits. This led to the delay in implementation and affected the outputs of the PSRP.

### **B. Program Outputs**

#### **1. Progress in Power Sector Restructuring**

7. The centerpiece of the restructuring of the power industry is the passage of the omnibus power industry bill, called the Electric Power Industry Reform Act (EPIRA) in June 2001. The implementing rules and regulations (IRRs) of the EPIRA were promulgated in February 2002. Accordingly, an independent Energy Regulatory Commission (ERC) was created and the

electric power industry was unbundled into generation, transmission, distribution, and supply sectors. The EPIRA and its IRRs provide a legal framework for the restructuring of the electric power industry and the privatization of NPC (the new structure of the electric power industry is shown in Appendix 2). The ultimate role of NPC has been reduced to being the operator of the Small Power Utilities Group (SPUG) and other nonprivatized assets. PSALM and the National Transmission Corporation (TRANSCO), which is wholly owned by PSALM, have also been created. NPC/SPUG will be responsible for providing power generation and its associated power delivery systems in areas that are not connected to the transmission system. PSALM will initially take possession of all existing NPC generation assets, liabilities, IPP contracts, real estate, and other disposable assets. The principal role of PSALM is that of a liquidator; that is, to manage the orderly sale, disposition, and privatization of NPC's generating assets, IPP contracts, and other property.<sup>5</sup> PSALM will be the government-owned and controlled corporation that will be responsible for repaying all existing NPC debts. The transmission and subtransmission assets of NPC and other assets relating to transmission, including NPC's nationwide franchise for the operation of the transmission system and the grids,<sup>6</sup> will be transferred to TRANSCO. In accordance with EPIRA provisions, the transfer of the assets and liabilities from NPC to PSALM and TRANSCO is expected in the second half of 2004 after consents are obtained from NPC's bank creditors and bondholders, including ADB. Since the transfer of assets and liabilities is considered a major change in the implementing arrangements of ADB loans to NPC, an ADB Board paper will be submitted to the Board for consideration.

8. Since the enactment of the EPIRA in June 2001, there has been some progress in the regulatory framework of the power sector. With TA from ADB,<sup>7</sup> ERC promulgated in May 2003 the performance based rate making methodology of the Transmission Sector, which replaced the traditional rate-of-return based pricing methodology. For generation pricing, ERC is reviewing the price determination methodology for the wholesale electricity spot market and is expected to promulgate this methodology in the course of 2004.

9. In accordance with the provisions of the EPIRA, the Joint Congressional Power Commission endorsed the NPC privatization plan on 29 August 2002. The President of the Philippines approved the privatization plan on 4 October 2002. The plan was developed pursuant to the EPIRA and its IRRs, and is generally consistent with the objectives of the PSRP. According to the plan, a qualified private concessionaire will be selected through international competitive bidding to operate TRANSCO's transmission assets. The concession will have an initial duration of 25 years, renewable for another 25 years subject to the concessionaire's satisfactory performance. NPC's generation assets will be privatized through international competitive bidding.

10. Bidding for TRANSCO's concession failed twice in 2003, as only one bidder expressed an interest. This was mainly due to low appetite of the private sector amid increased bankruptcies of some international investors. The failure was also due to (i) lack of Congressional approval of a franchise to operate the transmission assets by a private concessionaire, (ii) controversies surrounding private sector investments in the air transport and water sectors, and (iii) increased credit risk as the main distribution utility's financial situation deteriorated as result of the delay in tariff increases and Supreme Court ruling on income

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<sup>5</sup> The Agus and Pulangui hydropower stations in Mindanao are excluded until 2010 from the generation assets to be privatized. NPC will continue to operate all unsold generation assets on behalf of PSALM under an operation and maintenance contract.

<sup>6</sup> Under Section 27 of the EPIRA, Congress has the exclusive power to grant franchises to persons engaged in transmission of electricity.

<sup>7</sup> ADB. 2001. *Technical Assistance to the Philippines for a Competition Policy for the Electricity Sector*. Manila.

taxes.<sup>8</sup> In accordance with the privatization guidelines and procedures, the Government decided to enter into direct negotiations with the lone bidder for the award of TRANSCO's concession.

11. In March 2004, the bidding for the sale of 3.5 megawatt (MW) Talomo hydroelectric plant near the city of Davao in Mindanao was concluded successfully. Three investors (comprising one foreign firm and two Philippine firms) participated and a Philippine firm won the bidding at the offered price of \$1.37 million. Although the value of the sale was limited, it was the Government's first success in the privatization of NPC's assets.

12. The establishment of a wholesale electricity spot market (WESM) was a condition for the third tranche release of PSRP. In December 2002, when the third tranche release was considered, the market rules for WESM were promulgated and initial market simulations were conducted. This was considered a partial compliance with the tranche release. The Board approved the waiver of this condition and approved a further loan to help the Government establish the WESM.<sup>9</sup> The turnkey contract for the supply of hardware and software for the WESM has been awarded and the commissioning of the WESM is expected in early 2005. Meanwhile, the Philippine Electricity Market Corporation has been established to undertake the preparatory work and initial operation of the WESM.

## 2. Financial Performance

13. NPC's financial performance has deteriorated since the Program was prepared in 1998 (Appendix 3). During the program implementation period from 1998 to 2002, NPC had to pay capacity fees to IPPs as the actual electricity dispatch level from the IPPs was well below the committed minimum energy requirement. As the contractual obligations are denominated in dollars, another major factor was the continued devaluation of the peso against the dollar. Recovery of the full amount of these obligations has not been allowed through the tariff;<sup>10</sup> therefore, NPC revenues fall far short of enabling the firm to meet all of its costs. Net income became negative in 1998 and has been deteriorating since. During the period, the total revenues of NPC increased by an average of 8.6% annually, while operating expenses increased by an average of 11.4% annually. The RORB has been well below the covenanted 8%, decreasing from 3.22% in 1998 to only 0.22% in 2002. The debt service ratio has been below 1.0, dropping from 0.92% in 1998 to 0.46% in 2002.

14. NPC's liabilities doubled during the period 1998 to 2002, to represent about 95% of NPC's assets in 2002. Among the liabilities as of end-2002, about P630 billion (about 58% of the total liabilities) were the lease obligations for the build-operate-transfer plants, that is, the capacity fee payment obligations to the IPPs. The long-term liabilities of P396 billion (about 36% of the total liabilities) were mainly composed of foreign currency loans and bonds. Therefore, NPC's financial situation is very sensitive to foreign exchange fluctuations, and suffers directly from the continuing devaluation of the peso.

<sup>8</sup> On 15 November 2002, the Supreme Court ordered MERALCO to refund the customers P0.167/kWh relating to payments made from February 1994 due to a different interpretation of the application of income tax in tariff setting. The total amount of the refund is about P30 billion.

<sup>9</sup> ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Republic of the Philippines for the Electricity Market and Transmission Development Project* (for \$40 million, approved on 19 December 2002). Manila.

<sup>10</sup> In Luzon, Visayas, and Mindanao, the ERC-approved average NPC tariff is P2.22/kWh, P2.10/kWh, and P1.04/kWh, respectively, while the actual cost is about P3.0/kWh, P2.3/kWh, and P1.45/kWh, respectively.

15. PSALM would require about \$1.5 billion–2.0 billion every year to cover NPC's maturing debts and contractual obligations with the IPPs. It should be noted that action has to be taken to improve PSALM's viability on other two aspects: (i) the timing and manner in which the Government will assume NPC's P200 billion stranded debt and stranded cost, and (ii) introduction of a universal charge to cover NPC's stranded debt and cost. The delays in resolving these issues had put back ADB's decision to grant its consent for the transfer of NPC's assets and liabilities to PSALM and TRANSCO. By letter to ADB dated 21 April 2004, the Government however clarified those issues to pave the way to the transfer.

16. Due to a timing mismatch between cash inflows from the expected revenues and cash outflows, particularly in the initial years when key milestones of the privatization process are being executed, PSALM's cash-flow deficit in 2002 was \$1.85 billion to cover NPC's maturing debt obligations, contracted IPP obligations, and separation payments to NPC staff. This was not anticipated when the PSRP was presented to the ADB Board in 1998. Of this amount, the Government raised \$1.35 billion through sovereign bond issues, while ADB provided the PCG (para. 3) to help mobilize the remaining cash deficit. The bond issue of \$500 million equivalent was lead-managed by Nomura International. The ADB-supported PCG covers the repayment of principal at final maturity and the payment of interest coupons for the last 10 years of the bond. The ADB guarantee was counterguaranteed by the Government, and ensured PSALM's access to competitive and long-term (18- and 20-year) funds. This led to reduced financing costs and enabled PSALM to pass savings on to consumers at an earlier stage than would otherwise have been possible. The terms and conditions of the PSALM bond issue are given in Appendix 4.

### 3. Operational Performance

17. Installed generation capacity in the country increased from 11,928 MW in 2002 to 15,123 MW in 2003. The commissioning of the 1,200 MW Iligan and the 500 MW San Lorenzo natural gas-fired plants in 2002 significantly improved the country's self-sufficiency level in the power generation mix, to 53% in 2002 from about 33% in 1998.<sup>11</sup> However, NPC's generation (including its contracted IPPs) decreased from 39,684 gigawatt-hours (GWh) in 1998 to 38,269 GWh in 2002 due to the low dispatch level of its plants, as MERALCO has been increasing purchases of power from its own contracted IPPs.

18. TRANSCO's average system loss as a share of gross generation has not experienced significant improvement, varying from 2.9% to 3.9% from 1998 to 2002. During this period, the average system loss was 2.9% in Luzon grid, 4.5% in Visayas grid, and 4.3% in Mindanao grid. The reliability of TRANSCO's transmission system needs improvement as the average transmission system interruption severity index (SISI)<sup>12</sup> in 2003 was 201.6 in Luzon grid, 378.0 in Visayas grid and 207.2 in Mindanao, well below international standards.

19. As the main distribution utility in the country, MERALCO's operational performance has experienced some improvement in its system losses, which decreased from 11.80% in 1998 to 10.85% in 2002. This is still higher than the regulatory cap of 9.5% allowed for such losses in accordance with the Anti-Pilferage Act 1994.<sup>13</sup> The operational position of the 119 electric cooperatives is variable. In 2002, 80 electric cooperatives (67%) reported losses greater than

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<sup>11</sup> Self-sufficiency represents the share of indigenous energy out of total primary energy requirement for power generation.

<sup>12</sup> The system interruption severity index is computed on the basis of the sum of outage times weighted according to the estimated loss of sales.

<sup>13</sup> This means that the cost of losses over and above the cap cannot be taken into account when setting the customer rate, and therefore must be absorbed by the utility.

the allowed 14% loss cap. Of these, 22 reported losses higher than 20% and two reported losses greater than 30%.

20. In 1998, the Government launched a major rural electrification program (the O'llaw program), which aims to electrify all *barangays* in the country by 2006. Since then, significant progress has been made. As of December 2003, about 90% of the *barangays* in the country had access to electricity compared with only 68% in 1998.

### **C. Program Costs**

21. The report and recommendation of the President for the PSRP did not explicitly specify the cost of restructuring but indicated that the loan proceeds of \$600 million from ADB and JBIC would help finance a part of the adjustment costs associated with power sector restructuring. The Government has been covering NPC's debt liabilities through cash advances and bond issues. In accordance with the provisions of the EPIRA, the Government is required to absorb up to P200 billion of NPC's stranded debt after privatization.

### **D. Disbursements**

22. Following the approval of the PSRP, the first tranche of ADB loan of \$100 million was disbursed on 24 December 1998 following loan effectiveness, the second tranche of \$100 million was disbursed on 18 December 2001, and the third tranche of \$100 million was disbursed on 29 November 2002. The Government certified that the expenditures were made for the purpose specified in the Loan Agreement. The loan was closed on 31 December 2002.

### **E. Program Schedule**

23. The original closing date for the PSRP of 30 September 2000 was extended twice to 31 December 2002, at the request of the Government, to provide more time for it to fully implement the reform actions under the PSRP. Thus the closing date was delayed by 27 months from the original date.

### **F. Implementation Arrangements**

24. The Department of Finance (DOF) was the Executing Agency. A steering committee was established to oversee the implementation of the PSRP. The committee was co-chaired by DOF and the Department of Energy (DOE), comprising representatives of all stakeholders of the power sector and met regularly. This arrangement was satisfactory.

### **G. Conditions and Covenants**

25. The PSRP policy matrix comprises 60 actions, of which 27 are core conditions for tranche releases (Appendix 1). Despite the challenging reforms required under the PSRP, the Government has made satisfactory progress. The first tranche of the PSRP loan was released following compliance with 13 conditions precedent to ADB Board consideration. Since then, ADB has been closely monitoring the implementation of the PSRP, and there has been continuing policy dialogue associated with monitoring progress on various actions under the PSRP. Of the eight conditions for release of the second tranche, six were fully complied with

and two were partly complied with.<sup>14</sup> The latter two have since been substantially complied with. Of the six third tranche release conditions, five were fully complied with, and one was partly complied with.<sup>15</sup> The latter condition will be fully complied with in early 2005 when the WESM is established (para. 12).

26. Progress on and completion of 33 noncore actions are generally satisfactory. Of these actions, 24 are fully complied with, eight are substantially complied with, and one is partly complied with. The substantially completed noncore actions mainly relate to the reforms in the distribution utilities and strengthening of rural electric cooperatives. In accordance with the provisions of the EPIRA and its IRRs, DOE is taking initiatives to implement further reform programs to improve the efficiency of the distribution utilities in the country. In particular, investment management contracts will be introduced to attract private sector capital and expertise to strengthen the technical, management, and financial capacities of the RECs. Policy dialogue with the Government is continuing to monitor the developments, but more ADB financial and advisory assistance may be necessary to sustain the achievements of the PSRP and to reinforce the reliability of transmission systems pending the entry of the private sector.

## H. Related Technical Assistance

27. At the time when the PSRP was prepared in 1998, there was little clarity in DOE with regard to the regulatory and pricing policy needed for the emerging competitive electric power industry. In order to assist DOE in this matter, the Government requested ADB to provide TA to conduct a study on electricity pricing and regulatory practice in a competitive environment (footnote 2). The main objective of the TA was to develop appropriate regulatory policies and practices along with supportive rules, procedures, and monitoring systems to prevent anticompetitive behavior in a competitive electric power industry and enforce technical performance standards among the regulated firms. The TA would also provide alternative methodologies considered appropriate for defining rates of electricity transmission and distribution in a competitive market. The TA was rated as successful.<sup>16</sup> Key recommendations in the study were taken into account as ERC was adequately empowered in the EPIRA and its regulations, which have been prepared to promote a competitive electric power industry.

28. To support the PSRP, a second TA was formulated to undertake a consumer impact assessment (footnote 3). The objective of this TA was to provide a quantitative assessment of the impacts of the restructuring and privatization of the power sector on the various consumer classes and, if necessary, to recommend appropriate mitigating measures to protect the economy and various disadvantaged consumer classes. The study computed benefits through a partial equilibrium model and a general equilibrium model, and compared existing and expected generation tariffs<sup>17</sup> to compute welfare gains and losses. The partial equilibrium analysis indicated net long-term savings to residential consumers of P7.3 billion per annum, equivalent to about P800 per household per annum. As producers also face lower electricity prices, households nationwide will receive additional indirect gains. The general equilibrium model indicates a total annual gain for households of P28.6 billion, or equivalent to about P3,200 per

<sup>14</sup> ADB. 2001. *Progress Report on the Power Sector Restructuring Program Progress Report (Release of Second Tranche)*. Manila.

<sup>15</sup> ADB. 2002. *Progress Report on the Power Sector Restructuring Program Progress Report (Release of Third Tranche)*. Manila.

<sup>16</sup> ADB. 2003. *Technical Assistance Completion Report: Study on Electricity Pricing and Regulatory Practice in a Competitive Environment*. Manila

<sup>17</sup> Expected tariffs were based on the long-run marginal cost of production (which is a proxy for the competitive market price) plus an estimate of the stranded cost.

household. Also, the economy as a whole is expected to benefit from the reforms, with increases in GDP and employment of 2.85% and 2.79% respectively when the Program is fully implemented. The study also indicates that, although most consumers will be better off with the electricity reform program, certain sectors of society will require mitigation measures to cushion the adverse impacts of the elimination of cross subsidies during the transition period. These calculations were based on assumptions regarding likely asset sales proceeds, exchange rates, market price of power, stranded costs, and cost sharing between the Government and the consumer; and will need to be recomputed once these figures become firmer. The TA was rated as successful,<sup>18</sup> as the recommendations and conclusions of the study were taken into account in the EPIRA.

#### **I. Consultant Recruitment and Procurement**

29. There was no recruitment of consultants or procurement under the PSRP. The recruitment of the consultants for (i) electricity pricing and regulatory practice in a competitive environment and (ii) consumer impact assessment TAs was through competitive bidding among short-listed qualified firms in accordance with ADB's *Guidelines on the Use of Consultants*.

#### **J. Performance of the Borrower and the Executing Agency**

30. Progress reports were submitted periodically and ADB was kept informed about the progress in implementing the Program. The PSRP incurred a delay of 30 months due to a longer than expected legislative process for the adoption of the EPIRA. Such a lengthy process, though it delayed the PSRP, ensured wide bipartisan political support in Congress for a challenging reform program. This political consensus was a necessary condition for the smooth implementation of the privatization process, but was unfortunately not a sufficient condition for the success of the privatization. As the EA of the PSRP, DOF effectively coordinated with stakeholders for the implementation of the Program. In overall terms, the performance of the Borrower and the EA is considered satisfactory. Nevertheless, further efforts will be required to sustain the achievements and to complete the restructuring process.

#### **K. Performance of the Asian Development Bank**

31. ADB supported the design and formulation of the PSRP and closely monitored the implementation of the Program through regular review missions. In addition to the formal review missions, the proximity of ADB's Headquarters to the Borrower and the Executive Agency permitted continuous liaison to address key policy issues whenever necessary during the processing and implementation of the PSRP. ADB also took a flexible and pragmatic approach and provided necessary complementary support through the PCG. ADB had kept close coordination with JBIC and the other international financing agencies that were involved in the power sector in the Philippines. The performance of ADB in the implementation of the Program was satisfactory. It should be noted that ADB assisted in the formulation of the reform program based on the best-known international practices at the time of program preparation. With hindsight, for a complex program of this nature, ADB might have recommended a phased approach and a longer period for implementation.

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<sup>18</sup> ADB. 2003. *Technical Assistance Completion Report: Consumer Impact Study*. Manila.

### III. EVALUATION OF PERFORMANCE

32. Electricity and economy growth are closely related. The electricity-to-GDP elasticity is estimated at 1.28 (i.e. for every 1.0 percent increase in GDP, electricity demand will increase by 1.28%) for the next ten years in the Philippines. Although the impact of electricity supply on economic growth has not been quantified in the Philippines, improving performance of the power sector is essential to ensure the country's economic growth and poverty reduction. With the introduction of competitive markets, the restructured power sector will help lower the electricity tariff, enhance the efficiency of the electricity industry, and improve the economic competitiveness of the country.

#### A. Relevance

33. The PSRP is considered highly relevant to the Government's goal of promoting economic growth supported by an efficient power sector established on a sustainable basis. The introduction of competitive markets in electricity would improve operational efficiencies of the power utilities and shift the market risk to the market participants, thus removing the heavy financial burden from the public sector. ADB has had a long involvement in, and is highly supportive of, the Government's plans to restructure and privatize the electric power industry and to create a competitive electricity market. Such restructuring is in conformity with ADB's energy policy,<sup>19</sup> and is indispensable to overcome the problems of the power sector and ensure its sustainable development.

#### B. Efficacy in Achievement of Purpose

34. The principal objective of the PSRP was to support the Government's initiatives to (i) create competitive electricity markets and (ii) to restore NPC's financial sustainability prior to privatization. The EPIRA has created the necessary legal framework and institutional setup of competitive electricity markets including the establishment of PSALM to assume all of NPC's loan repayments and other debt repayment obligations. In the long term, PSALM will have sufficient resources to cover all its debt obligations with major revenue sources including (i) the universal charge to cover stranded debt and stranded contract costs, (ii) net profits from TRANSCO and from the Agus and Pulangui hydropower stations, (iii) privatization proceeds, and (iv) debt assumption by the Government of up to P200 billion as provided in the EPIRA. However, NPC's financial sustainability remains unsatisfactory due to the continued depreciation of the peso and the low dispatch level of its contracted IPPs with guaranteed take-or-pay provisions. At the time of program completion report mission, the transfer of NPC's assets and liabilities to PSALM was not yet effective, and the Government had not assumed NPC's debt up to P200 billion in accordance with provisions of the EPIRA. Considering the delay in establishing the competitive markets and the fact that NPC's financial sustainability has not been restored, the PSRP's performance in terms of achieving its purpose is considered less than efficacious.

#### C. Efficiency in Achievement of Outputs and Purpose

35. As summarized in the table, progress in most of the key areas of the PSRP has been satisfactory, but in some other areas progress has been insufficient or incomplete. Therefore, the achievement of the PSRP's outputs and purpose is considered partly efficient.

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<sup>19</sup> ADB. 2000. *Energy 2000: Review of the Energy Policy of the Asian Development Bank*. Manila

**Table: Progress in Key Areas of the Power Sector Restructuring Program**

<b>Key Areas of PSRP</b>	<b>Assessment of Progress</b>
Creating an enabling legal and regulatory environment to support competitive electricity markets	EPIRA (including its IRRs) was adopted in June 2001 and is being implemented. An independent ERC was established in June 2001.
Restoring the financial viability of NPC prior to privatization	NPC's financial viability remains unsatisfactory prior to privatization due to continued depreciation of the peso and depressed demand.
Unbundling and corporatizing NPC's operations to facilitate the introduction of competitive electricity markets.	NPC was corporatized in 1999 and its operations have been fully unbundled in 2001 with the creation of TRANSCO.
Establishing the open access transmission and distribution systems needed to support competitive electricity markets	Open access transmission and distribution has been granted in EPIRA; Transmission Code and Distribution Code were issued in December 2001
Improving the operational efficiency of the distribution subsector so it can actively participate in competitive markets	The operational efficiency of the distribution sector is improving (MERALCO's system losses fell from 11.80% in 1998 to 10.85% in 2002) as result of the Government's system loss reduction initiatives and ERC's system loss cap for the distribution tariff.
Promoting energy efficiency and demand-side management to supplement efficiency gains from competitive markets	The Government intensified energy labeling and standard programs, as well as its energy management program and heat rate improvement program to promote energy efficiency and demand-side management.

EPIRA = Electric Power Industry Reform Act, ERC = Energy Regulatory Commission, IRRs = implementing rules and regulations, NPC = National Power Corporation, PSRP = Power Sector Restructuring Program, TRANSCO = National Transmission Corporation.

Sources: Department of Energy, National Power Corporation, National Transmission Corporation.

#### **D. Preliminary Assessment of Sustainability**

36. Restructuring of the power sector as envisaged in the PSRP is crucial to the socioeconomic development of the Philippines. The EPIRA provided the needed legal and regulatory framework to ensure the long-term sustainability of the power sector. The restructuring of the sector is designed to increase its economic efficiency by disaggregating the industry into its component sectors. The generation and supply sectors, which are not natural monopolies, are to be exposed to competition and an electricity wholesale market is to be established to facilitate competition in the generation sector. The monopoly sectors of the industry, namely transmission and distribution, will be subject to the control of an independent economic regulator. The approach is consistent with the power sector restructuring that is taking place in an increasing number of countries throughout the world. In the design of Philippine competitive markets, the particular experience of those countries with similar market size was taken into account.

37. However, in the short and medium term, the Government is facing a challenging situation. Currently, there is an excess capacity in the country's power generation, particularly in

Luzon grid where three natural gas-fired plants with a combined capacity of 2,760 MW were commissioned in 2002. However, demand growth and plant retirement will likely lead to capacity shortages in 2005 for Visayas and Mindanao and by 2008 for Luzon. To meet the forecast demand for electricity, a total of 7,150 MW (including 5,190 MW for the Luzon grid) of new generating capacity needs to be commissioned by 2012. So far, only six small programs of about 1,000 MW of total capacity have been committed. Moreover, there also exist transmission constraints. In Luzon, for example, while the available capacity was about 10,000 MW compared to a system demand of 6,300 MW, the net reserve is only about 2,000 MW due to insufficient transmission capacity in southern Luzon. In the Visayas, Panay islands are currently experiencing some power outages due to very thin reserve (less than TRANSCO's operating requirement of 13.2%) brought by the limitation of the transmission transfer capacity from Leyte-Cebu-Negros to Panay. Unless new investments are committed in the next 1–2 years for expanding generation capacity and strengthening transmission capacity, the country is likely to face another severe power crisis. The Government has created a unified power task force to address the situation in Visayas and has put in place new capacity additions: (i) construction of 25 MW merchant power plant, (ii) lease of 10 MW modular generation set, (iii) transfer of 32 MW of power barge from Mindanao, and (iv) transfer of a 110 MW power plant from Pinamucan in Luzon to Visayas.

38. Therefore, the Government has to resolutely pursue the power sector restructuring and privatization and attract more investors for the long-term sustainability of the power sector. Further efforts should be made to create a sound regulatory framework and more conducive investment environment. Necessary refinements may be considered in the IRRs in view of the changing circumstances since the adoption of the EPIRA. The Government needs to take responsibility in building partnerships with the private sector to address the critical deficiencies in the power system.

## **E. Environmental, Sociocultural, and Other Impacts**

39. The environmental implications of the PSRP were reviewed at the time of appraisal and no significant adverse environmental impacts were found; the Program was classified as category C.

40. One of the key objectives of the industry restructuring mandated by EPIRA is to reduce the cost of electricity supply by making the power industry more efficient. However, there will be social impacts related to the (i) removal of cross subsidies and tariff increases and (ii) downsizing of the NPC workforce.

41. The PSRP aims to help eliminate cross subsidies and move prices toward cost-reflective rates by introducing competition into the sector. Accordingly, the EPIRA stipulates that cross subsidies within a grid, between grids, and/or classes of customers are to be phased out in a maximum of 3 years from the establishment by the ERC of a universal charge, which will be collected from all electricity consumers. As a first step, the level of cross subsidies have now been identified separately in the billing statements provided to end-users by suppliers. As in any removal of subsidies, there is scope for potential welfare losses, and the poor are generally more vulnerable under such circumstances. Mitigating mechanisms are designed to leverage future gains and reduce near-term burdens of adjustment. One of the measures is the setting of lifeline rates for marginalized end-users by the ERC. The lifeline rate, which is defined as a subsidized rate given to low-income captive market consumers who cannot afford to pay at full cost, is designed at a threshold level of 20 kWh a month and a discount rate of 70%. The lifeline pricing scheme, as an income redistribution measure, is to be reconciled with the system of

minimum billing to cover the fixed costs of providing electricity services. The lifeline tariff policy is also to be supplemented by programs to improve and make less costly the access of poor households, especially the rural poor, to electricity supply. Such programs as the established village electrification fund help subsidize house connections to electricity for the rural poor.

42. The Government has taken further measures to contain the electricity tariff increases including (i) the mandated P0.30 rate reduction in accordance with Section 72 of the EPIRA, (ii) condonation of electric cooperative loans to NEA and the associated rate reduction, and (iii) the capping of the purchased power cost adjustment to P0.40 per kWh in May 2002. Although these measures were effective to contain the electricity tariff increases and boosted public acceptance of the power sector restructuring program, they negatively affected the financial viability of the power utilities and investors confidence.

43. The unbundling and restructuring of NPC was successfully completed in early 2003. This was undertaken in close consultation with labor unions and in accordance with national laws and regulations. The workforce of NPC, including generation companies (GENCOs) to be privatized and SPUG, was reduced to 4,741 from 6,380; TRANSCO's workforce was reduced to 3,714 from 4,052. Separation benefits of about P12 billion were paid to the employees affected.

#### IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

##### A. Overall Assessment

44. The Program was conceived and designed consistent with the prevailing operational policy and energy policy of ADB at the time of appraisal and the long-term vision of the Government for development of the power sector in the country. Under the Program, the legal and regulatory framework was put in place for the introduction of competitive electricity markets and the integrated generation and transmission system was unbundled prior to NPC's privatization. However, even with the extension of the PSRP loan closing date by 1 year, the financial viability of the sector was not achieved given the delay in privatization of NPC. As the competitive markets have not yet been established, no significant improvements have been registered in the operational efficiencies of the generation, transmission, and distribution utilities. Critically, further actions and efforts from the Government, with possible assistance from ADB, will be required to sustain the achievement so far and complete the program. Overall, the Program is considered partly successful.<sup>20</sup>

##### B. Lessons Learned

45. **Appropriateness of ADB Operational Modality.** The Philippines is among the first developing member countries to implement fundamental power sector restructuring, requiring substantive privatization of generation assets and entering into concessionaire agreement with private parties for operating transmission assets, with the objective of achieving full competition. This is an ambitious and complex task given the prevailing economic environment and involves coordinated actions on legislative, regulatory, and policy measures spread over a reasonable long period of time. With hindsight, a more appropriate modality for fundamental power sector restructuring of the magnitude targeted under the PSRP would have been a cluster approach, where the reform actions are prioritized and sequenced in phases more realistically. In the first phase, the Program could have concentrated on establishing a sound policy, legal, and

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<sup>20</sup> This program completion report is part of a sample of such reports that have been independently reviewed by the Operations Evaluation Department. The review has validated the methodology used and the rating given.

regulatory framework for introducing new competitive markets, and laying the ground for transfer of assets, privatization, and absorption of stranded debt in subsequent phases. Therefore, one important lesson is that power sector restructuring in developing countries is a long process and, as such, the design of policy reforms should recognize the need for a steady approach with a phased and realistic implementation schedule.

46. **Political Constraint of Power Sector Restructuring.** In Asia, the Philippines has been one of the first countries to encourage greater private sector participation in its power sector, as evident from its experience with IPPs in the 1990s and recognition of introducing WESM. However, the reforms pursued have yet to restore legislative and public confidence as the economic efficiency of state power utilities is low and electric tariffs remain one of the highest in the region. In wake of this, and given the legislative sentiments associated with the sale of transmission assets, developing consensus for the transfer of transmission franchise bill has been difficult. In designing power sector reforms and restructuring, it is important to consider political constraint as well as involve stakeholders to ensure buy-in of reforms.

47. **Investment Climate.** The PSRP, as designed, underestimated the complexities of the prevailing investment climate, both judicial and regulatory, which plays a significant role in privatization of power entities. The legislative branch in the Philippines has some unique characteristics that render any key decision a lengthy process. The investment climate has been further affected by the judiciary overruling ERC rulings and weak contract enforcement as manifested in case of some private sector deals involving public utilities. As such, ensuring adequate independence of regulator and broader improvements in governance of judicial system are critical for power reforms to move ahead in a timely manner.

48. **Power Sector Liabilities and High Fiscal Deficit Nexus.** Theoretically, timely privatization of generation and transmission ought to help alleviate financial difficulties of public sector power utilities and ease government budget pressure. However, the Program underestimated the nexus between the public sector liabilities and high fiscal deficit which impacts the ability to restructure the power sector. Over the last few years, inefficiencies of government owned corporations have perpetuated the fiscal deficit and eroded government's ability to upfront finance costs of structural adjustment of power entities, the settlements of which are critical to facilitating the privatization and restoring power sector's financial sustainability. As such, future power sector operations should recognize the nexus and complexities of debt resolution of state enterprises at a time of high and unsustainable fiscal deficits. In the Philippines, the fiscal deficit will continue to impede the prospects of an early absorption of NPC's stranded debt, which in turn affect the ability of NPC/PSALM to raise resources at competitive prices. Moreover, the restructuring cost should take into account the possible timing mismatch between cash inflows from the expected revenues of privatization and cash outflows, particularly in the initial years when key milestones of the privatization process are being passed. In such cases, provision of PCG is appropriate to support the Government to keep the reform program on track and maintain momentum until the process is completed.

49. The PSRP included 60 policy actions to be implemented. Though most of these actions have been complied with, some of the key objectives were not achieved. This is more an action-oriented program than an objective-oriented program. Program loans should be designed with fewer conditionalities, following the cluster approach recommended above.

## C. Recommendations

50. **Forward Engagement in Power Sector.** As the lead financing agency in the power sector in the Philippines, ADB has continued to conduct policy dialogue and review and monitor the power sector reforms and privatization process. ADB continues to underscore the need for accelerating the momentum on the power sector restructuring and privatization. However, as the two failed bids for TRANSCO indicated, the private sector may be unwilling to invest in the power sector in the short term due to a series of political, regulatory, and commercial risks. ADB's advice and support will provide comfort to the private sector and help facilitate the resolution of power sector liabilities and privatization process.

51. Subject to the Government's commitment to the power sector restructuring process, an energy sector development program (SDP) would be an appropriate tool, as it is a combination of an investment (project or sector) and a policy-based (program) loan, with a view to urgently meeting gaps in generation and transmission in a comprehensive and integrated fashion. Within this framework, a PCG could be considered for the Government to mobilize long-term funding at a competitive cost. The policy issues that could be addressed under the SDP include (i) efficiency and viability of the power sector (generation, transmission, distribution, and rural electrification), (ii) promotion of a sound regulatory framework for electricity sector, (iii) promotion of good corporate governance of private companies, and (iv) promotion of renewable energy for rural electrification and livelihood development in the restructured power sector. The investment components could include priority and indispensable transmission projects that have to be implemented in the short term pending the entry of a private concessionaire to take over TRANSCO. Within the policy framework of the SDP, ADB could also support the privatization of GENCOs and TRANSCO through political risk guarantee or other appropriate instruments. ADB could also consider private sector operations with MERALCO to reduce the credit risk of the power market.

52. **Future Monitoring.** The financial health of NPC and its successor entities should be monitored in the coming years. The Government/PSALM should implement an action plan to assume up to P200 billion of NPC's debt and ensure the introduction of universal charge to cover NPC's stranded debt and stranded costs.

53. **Covenants.** The covenants in the program Loan Agreement should be maintained in their existing form within the repayment period of the program loan. The conditions and actions required under the PSRP's policy matrix will be monitored within the framework of the ongoing ADB loan for Electricity Market and Transmission Development Project (footnote 9).

54. **Timing of Program Performance Audit Report Preparation.** It is recommended that the program performance audit report be undertaken by 2006 after 1 year of operation of the WESM.

**POWER SECTOR RESTRUCTURING PROGRAM  
POLICY MATRIX**

<b>Objective</b>	<b>Action Planned</b>	<b>Responsible Agency</b>	<b>Action to be Completed</b>	<b>Status and Assessment</b>
1. Create an Enabling Legal and Regulatory Framework to Support Competitive Markets in Electricity				
a. Establish the legal framework	i. Review the Omnibus Power Industry Bill by DOF and DOE taking into consideration the recommendations of ADB-funded panel of experts, and then make recommendations to the Congress and Senate committees on energy  ii. Enact the Omnibus Power Industry Bill to create the framework for competitive markets in electricity	DOE and DOF	Precedent to ADB Board presentation	Complied with; the required actions were fully implemented by December 1998.
b. Establish the regulatory framework	Promulgate IRRs supporting the legislation quoted in Action 1.a.ii.	DOE	Prior to third tranche release	Complied with; the IRRs of the EPIRA were approved and promulgated in February 2002.
c. Strengthen ERC	i. Following completion of the ADB-funded TA, formulate appropriate practices and procedures for electricity pricing and regulatory policy suitable for a competitive market environment  ii. Train ERC staff as needed in revised practices and procedures developed, and hold seminars to familiarize all stakeholders with the regulatory procedures	DOE and ERC	Other actions during the Program	Complied with; electricity pricing procedures are defined in the EPIRA (Section 36) and IRRs. In May 2003, ERC issued the Performance-Based Rate Making Methodology of the Transmission Sector. In March 2004, ERC approved the concept of price determination methodology for the WESM.
		ERC and DOE	Other actions during the Program	Complied with; training of ERC staff was undertaken under ADB TA and USAID TAs and consultation seminars were held during 2001–2004 with all stakeholders.

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## POLICY MATRIX—Continued

Objective	Action Planned	Responsible Agency	Action to be Completed	Status and Assessment
	iii. Issue and implement the regulatory functions quoted in action 1.c.i, including rules and regulations preventing monopoly practices	ERC	Prior to third tranche release	Complied with; provisions for retail competition open access for both distribution and transmission systems are defined in rule 12 of the IRRs; provisions preventing market abuse and anti-competitive behavior are defined in rule 11 of the IRRs.
	iv. Conduct a salary and staffing review, and ensure that ERC is provided with adequate resources for its new responsibilities under the legislation quoted in action 1.a.ii.	ERC and Department of Budget Management	Other actions during the Program	Complied with; review of salaries and staffing completed in September 2001. The ERC has been established in accordance with the EPIRA.
2. Restore the Financial Sustainability of National Power Corporation Prior to Introduction of Competitive Markets				
a. Reduce the high debt service burden of NPC	i. Identify the maximum debt-carrying capacity of NPC's proposed companies, and propose appropriate options to lower capital gearing ratios	NPC, DOE, and DOF	Prior to second tranche release	Complied with; Government's financial advisers have estimated that TRANSCO could carry 70% debt, but the GENCOs' debt-carrying capacity may range between 50 and 60% debt. SPUG's gearing ratio is expected to be about 10%. These arrangements represent an improvement over NPC's gearing ratio of 88% in 2000 and are considered satisfactory.
	ii. Refinance debt service on more favorable terms	NPC, DOF, DOE, and PSALM	Other actions during the Program	Complied with; refinancing at more favorable terms was undertaken with DOF guarantee during 1998–2004; In 2002, ADB provided a partial credit guarantee to help PSALM mobilize \$500 million long term competitive resources.
b. Improve NPC's income streams	i. Implement NPC's unbundled tariffs to eliminate intergrid cross subsidies, and introduce time of use tariffs	NPC, ERC, and DOE	Prior to second tranche release	Complied with; unbundled tariffs approved and implemented in October 2001; ERC further approved generation tariff for NPC and transmission tariff for TRANSCO in June 2002.

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**POLICY MATRIX—Continued**

Objective	Action Planned	Responsible Agency	Action to be Completed	Status and Assessment
ii.	Review the cost-recovery ability of the existing automatic tariff adjustment mechanisms, and seek appropriate amendments	NPC, ERC, and DOE	Precedent to ADB Board presentation	Complied with; required review of the cost recovery ability was undertaken prior to ADB Board presentation.
iii.	Introduce one-day-ahead power sales system	NPC, ERC, and DOE	Precedent to ADB Board presentation	Complied with; NPC one-day-ahead power sales system was introduced prior to ADB Board presentation.
iv.	Increase market share through the sales to owners of captive generation following the introduction of the one-day-ahead power sales system	NPC, ERC, and DOE	Other actions during the program	Complied with; NPC is now operating one-day-ahead power sales system; during 1998–2003, the number of one day-ahead power sales customers increased from 12 to 14.
v.	Implement bulk power supply connections following the repeal of Energy Regulation 1-97	NPC, DOE, and ERC	Other actions during the Program	Complied with; bulk power supply connections have been implemented.
vi.	Conduct an internal review of operations and identify efficiency measures that can be introduced to lower operating costs	NPC and DOE	Precedent to ADB Board presentation	Complied with; required review was undertaken prior to ADB Board presentation.
vii.	Review existing build-operate-transfer (BOT) fuel supply, and geothermal contracts to ascertain whether any contracts can be renegotiated	NPC and DOE	Other actions during the Program	Complied with; review of independent power producer was completed in June 2002 and renegotiations were completed in December 2003. Substantive agreements were reached for 25 contracts with total future savings amounting to \$1.046 billion in net present value terms. Following PSALM's negotiation models, MERALCO also renegotiated its power supply contracts with FGP Corporation and Quezon Power Philippines Ltd., which resulted in savings of about \$0.8 billion over the contract life of these IPPs.

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## POLICY MATRIX—Continued

Objective	Action Planned	Responsible Agency	Action to be Completed	Status and Assessment
	viii. Revise NPC's Power Development Program in line with lower gross domestic product growth expectations, and critically review all existing or proposed contractual commitments for new power generating plants	NPC and DOE	Precedent to ADB Board presentation	Complied with; NPC's Power Development Program has been regularly prepared based on NEDA's economic growth projections.
	ix. Declare a temporary moratorium on the accreditation of any new independent power producers and self-generating industries	DOE	Precedent to ADB Board presentation	Complied with; accreditation of any new independent power producers and self-generating industries has been suspended.
	x. Formulate an action package including, if necessary, a tariff increase to achieve the covenanted 8% rate of return and 1.0 of debt service ratio for NPC in 1999	NPC, DOE, and DOF	Precedent to ADB Board presentation	Complied with; the action package was formulated prior to ADB Board presentation.
	xi. Implement the action package formulated in 2.b.x	NPC, DOE, and DOF	Prior to second tranche release	Substantially complied with; the action plan was only partly implemented as NPC has been unable to achieve 1.0 debt service ratio. Waiver was granted by the Board in December 2001 for the second tranche release.
c. Improve NPC's cash flow position	i. In consultation with the Government, identify adequate sources of reasonably priced finance to fund payments as they fall due	NPC, DOE, DOF, and PSALM	Precedent to ADB Board presentation	Complied with; During 1998–2004. Government provided guarantees to NPC/PSALM to raise competitive finance to fund the maturing debt liabilities. ADB provided a partial credit guarantee to help PSALM mobilize \$500 million long term competitive resources.
	ii. In consultation with the Government, ensure that sufficient financing is available to fund NPC's needed capital investment program	NPC, DOE, DOF and PSALM	Precedent to ADB Board presentation	Complied with prior to ADB Board presentation. However, due to delay in privatization of NPC, needed capital investment has not been funded since 2001.

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## POLICY MATRIX—Continued

Objective	Action Planned	Responsible Agency	Action to be Completed	Status and Assessment
	iii. Prepare a strategy for divestment of NPC's subtransmission assets	NPC, DOE, DOF, and PSALM	Other actions during the Program	Complied with; a strategy of divestment of NPC's subtransmission assets is approved as part of NPC privatization plan.
3. Unbundle and Corporatize NPC's Operations to Facilitate the Introduction of Competitive Markets in Electricity				
a. Restructure NPC internally	i. Obtain National Power Board approval in principle for NPC's proposed restructuring including the creation of separate corporate entities for TRANSCO, Strategic Power Utilities Group, and the GENCOs	NPC and DOE	Precedent to ADB Board presentation	Complied with; NPC's restructuring plan was approved prior to ADB Board presentation. Restructuring was fully implemented in February 2003.
	ii. Obtain approval in principle for a mechanism to enable NPC to integrate existing BOT liabilities into the competitive market framework	NPC and DOE	Precedent to ADB Board presentation	Complied with; EPIRA and its IRRs require appointment of IPP administrators to participate in WESM.
	iii. Determine BOT liabilities that cannot be absorbed into GENCOs because of cost implications, and frame appropriate strategies to ensure that their cost of operation is fully recovered	NPC and DOE	Prior to second tranche release	Complied with; stranded costs have been identified and are being recovered through ERC-approved Generation Rate Adjustment Mechanism.
	iv. Form separate functional divisions within NPC and separate cost centers within NPC's books of account to record all revenues, assets, and liabilities of NPC's functions to be transferred to TRANSCO, Strategic Power Utilities Group, and the GENCOs	NPC and PSALM	Other actions during the program	Complied with; NPC implemented reorganization effective 1 June 1999, with divisions having separate accounting functions. The newly created PSALM is assuming NPC's debt liabilities.

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## POLICY MATRIX—Continued

Objective	Action Planned	Responsible Agency	Action to be Completed	Status and Assessment
	v. Allocate personnel to each of the functional divisions mentioned in Action 3.c.iv. and calculate the extent of required separation payments on or before their eventual privatization	NPC and PSALM	Other actions during the Program	Complied with; NPC implemented reorganization effective 1 June 1999, with divisions having separate personnel. P 12 billion was paid under NPC's separation scheme.
	vi. Allocate NPC's assets and liabilities to the functional divisions mentioned in action 3.a.iv, and start preparation of asset transfer documents	NPC and PSALM	Other actions during the Program	Complied with; NPC implemented reorganization effective 1 June 1999; allocation of assets and liabilities is completed; preparation of assets and liabilities transfer document started in September 1999.
	vii. Establish interim trading mechanisms and procedures to simulate a competitive market environment within NPC	NPC and TRANSCO	Other actions during the Program	Substantially complied with; the Government promulgated the WESM rules; initial simulations have been conducted in Luzon; a pilot market management system was set up in 2003 to train market participants and the final market system is being implemented with ADB's loan 1984-PHI.
	viii. Prepare contractual documentation for customers, and initiate negotiations for long-term bilateral contracts, where applicable	NPC	Other actions during the Program	Complied with; NPC prepared contractual documentation for customers, and negotiations of transition supply contract are in progress.
b. Corporatize NPC	i. Submit NPC's restructuring and privatization plan to the Government	NPC, DOF, DOE, and OP	Prior to second tranche release	Complied with; the NPC privatization plan was first submitted to the Government in September 2001 and implemented in February 2003.
	ii. Request approval of creditor banks for NPC's restructuring and privatization plan	NPC, DOF	Prior to second tranche release	Complied with; requests for creditors' consent were issued in October 2001.

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## POLICY MATRIX—Continued

Objective	Action Planned	Responsible Agency	Action to be Completed	Status and Assessment
	iii. Take appropriate action to ensure that the legislation quoted in action 1.a.ii. contains a mechanism to fund missionary electrification, utilization of indigenous resources, and NPC's excess costs and debt upon the introduction of competitive electricity markets	DOE, NPC, and DOF	Other actions during the Program	Complied with; necessary provisions were included in the EPIRA (section 34) and its IRRs; universal charges will be introduced to cover NPC's stranded costs and debts and support missionary electrification.
	iv. Following passage of legislation quoted in Action 1.a.ii, initiate the preparation of associated documents on share valuation and flotation of NPC's subsidiary companies, and prepare associated prospectus and legal documents with the assistance of experts	NPC and PSALM	Other actions during the Program	Complied with; consultants have been recruited; the associated documents for NPC's privatization, prospectus and legal documents have been prepared.
	v. Obtain Government approval for NPC's restructuring and privatization plan	NPC, DOE, DOF, PSALM, and OP	Prior to third tranche release	Complied with; the NPC privatization plan was endorsed by Joint Congressional Power Commission on 29 August 2002 and approved by the President of the Philippines on 4 October 2002.
	vi. Sale of equity interests to the private sector	NPC, DOE, PSALM, and DOF	Other actions during the Program	Partly complied with; privatization of TRANSCO and GENCOs is being carried out in accordance with the approved NPC privatization plan.
4. Establish the Open Access Transmission System needed to Support Competitive Markets in Electricity				
a. Install the institutional framework	i. Develop the power trading mechanism and pool rules needed to support competitive markets in electricity	DOE, ERC, TRANSCO, and NPC	Other actions during the Program	Complied with; the rules for the WESM were approved and promulgated in June 2002.

Continued on next page.

**POLICY MATRIX—Continued**

<b>Objective</b>	<b>Action Planned</b>	<b>Responsible Agency</b>	<b>Action to be Completed</b>	<b>Status and Assessment</b>
	ii. Approve and issue the grid code needed to support the operation of competitive markets in electricity	DOE, ERC, TRANSCO, and NPC	Prior to third tranche release	Complied with; the grid code was promulgated by ERC in December 2001.
	iii. Install custom-built software and computer systems to support the power trading and pooling system developed in Action 4.a.i, and train operators in its use	NPC, TRANSCO, and DOE	Prior to third tranche release	Partly complied with; detailed designs have been completed and WESM rules have been promulgated; initial training has been provided to the market participants and a pilot market management system has been set up in 2003 to undertake initial operations and to train market participants; the full market system will be implemented by early 2005 under ADB financing.
b. Install the required infrastructure	Review billing and metering infrastructure to ensure it is adequate to support competitive markets in electricity, and make appropriate modifications and expansions to existing facilities	NPC and TRANSCO	Prior to second tranche release	Substantially complied with; waiver was granted by the Board in December 2001 for the release of the second tranche; a transition scheme has been implemented to cope with the initial operations of the WESM; procurement is in progress to complete the installation of meters before the full operations of the WESM.
5. Establish the Open Access Distribution System needed to Support Competitive Markets in Electricity				
Enable open access at the distribution level 1999	i. Approve and issue the distribution code needed for the operation of competitive markets in electricity	DOE, ERC, and NEA	Prior to third tranche release	Complied with; the distribution code was promulgated by ERC in December 2001.
	ii. Implement a system of open access at the distribution level to enable the competitive market system to reach end-use consumers through the following actions:			

*Continued on next page.*

## POLICY MATRIX—Continued

Objective	Action Planned	Responsible Agency	Action to be Completed	Status and Assessment
(a)	Promulgate a Presidential executive order requiring unbundling of tariffs to disclose costs and facilitate the computation of wheeling tariffs	DOE, OP, and ERC	Precedent to ADB Board presentation	Complied with; unbundled tariffs components are shown in consumer bills.
(b)	In preparation for the passage of legislation, formulate, through consultative discussions with industry participants, regulations dealing with distribution open access	DOE	Other actions during the Program	Complied with; consultative discussions with industry participants and stakeholders conducted in 2000–2001 prior to the adoption of EPIRA.
(c)	Promulgate regulations dealing with open access at the distribution level following (i) passage of the legislation quoted in Action 1.a.ii; (ii) completion of consultative discussions in Action 5.1.3(ii); and (iii) completion of the consumer impact assessment in Action 8.a.i.	DOE	Prior to third tranche release	Complied with; regulations dealing with open access at distribution level were promulgated in the IRRs (rule 12). Upon the initial implementation of open access, the ERC will allow all electricity end-users with a monthly average peak demand of above 1 megawatt to choose their supplier of electricity. Two years thereafter, the threshold level for the contestable market will be reduced to 750 kilowatts.
iii.	Unbundle distribution tariffs and eliminate cross subsidies while considering appropriate safety nets for the underprivileged	DOE, ERC, and OP	Other actions during the Program	Substantially complied with; NPC's generation and transmission tariffs have been unbundled; ERC is reviewing the unbundled distribution tariffs, which will also eliminate cross subsidies; in accordance with EPIRA and its IRRs, the lifeline tariff will be introduced for poor consumers.

Continued on next page.

## POLICY MATRIX—Continued

Objective	Action Planned	Responsible Agency	Action to be Completed	Status and Assessment
	iv. Repeal Energy Regulation 1-97, which restricts NPC's right to sell electricity in bulk to large customers	DOE	Precedent to ADB Board presentation	Complied with; NPC has been able to sell electricity to large consumers.
6. Improve the Operational Efficiency of the Distribution Subsector to Enable it to Actively Participate in the Competitive Markets				
a. Strengthen distribution operations	i. Implement an efficiency improvement plan to reduce the level of technical and nontechnical distribution losses, and source appropriate funding for its implementation	DOE, NEA, and ERC	Other actions during the Program	Complied with; a number of programs in support of efficiency improvement are being implemented, including segregation of technical and nontechnical losses the automated mapping and facilities management system using the AM/FM system; and a rural electric finance corporation established to fund electric cooperatives rehabilitation programs.
	ii. Establish technical and nontechnical performance standards for distribution utilities and rural electrification cooperatives	DOE and ERC	Other actions during the Program	Substantially complied with; distribution code, including relevant technical performance standards, was approved in December 2001; nontechnical standards are under preparation.
	iii. Improve the collection and financial reporting capabilities of RECs	DOE, ERC, NEA, and REC	Other actions during the Program	Substantially complied with; collection efficiency has improved; training workshops for RECs were conducted under ADB TA 3422-PHI: Rural Electrification Strengthening and TA 3516-PHI: Rural Electrification Program to improve the financial reporting capabilities.
	iv. Strengthen the development planning ability of utilities and RECs, and conduct relevant workshops and seminars	DOE and NEA	Other actions during the Program	Substantially complied with; NEA offers services to electric cooperatives and will hire qualified external industry management experts; training workshops for RECs were conducted under ADB TA 3422-PHI: Rural Electrification Strengthening and TA 3516-PHI: Rural Electrification Program to strengthen planning capabilities.

Continued on next page.

## POLICY MATRIX—Continued

Objective	Action Planned	Responsible Agency	Action to be Completed	Status and Assessment
b. Make structural and operational reforms in distribution operations	i. Identify areas for possible structural and operational reforms of distribution operations	DOE, ERC, and NEA	Other actions during the Program	Complied with; DOE has identified 10 possible areas for consolidation; draft guidelines have been prepared by ERC for the structural and operational reforms of distribution utilities.
	ii. Conduct appropriate workshops and pilot studies, and pursue and encourage area-specific models and methodologies for consolidation of distribution operations	DOE and NEA	Other actions during the Program	Complied with; training workshops conducted under ADB TA 3422-PHI: Rural Electrification Strengthening and TA 3516-PHI: Rural Electrification Program; draft guidelines have been prepared by ERC for the structural and operational reforms of distribution utilities.
	iii. Implement agreed upon consolidation plans	DOE, NEA, and REC	Other actions during the Program	Substantially complied with; training workshops conducted under ADB TA 3422-PHI: Rural Electrification Strengthening and TA 3516-PHI: Rural Electrification Program; the implementation is in progress.
7. Promote Energy Conservation and Demand-Side Management to Supplement Efficiency Gains from Competitive Markets				
a. Expand energy conservation programs	i. Formulate energy standards	DOE	Other actions during the Program	Substantially complied with; standards for household appliances, refrigerators, freezers, and lamp ballasts were completed in 2001; other standards are being prepared.
	ii. Develop an energy conservation program based on market forces, and provide incentives for electric service companies to carry out energy efficiency activities	DOE	Other actions during the Program	Complied with; energy conservation programs were included in Philippine Energy Plan.
b. Implement DSM programs	i. Establish a system to monitor compliance with the DSM framework, and take appropriate action in cases of noncompliance	DOE and ERC	Other actions during the Program	Substantially complied with; provisions included in the IRRs and Philippine Energy Plan; ERC is mandated to monitor compliance with DSM framework.

Continued on next page.

**POLICY MATRIX—Continued**

<b>Objective</b>	<b>Action Planned</b>	<b>Responsible Agency</b>	<b>Action to be Completed</b>	<b>Status and Assessment</b>
	ii. Formulate incentives for investment in DSM, and source funding for DSM programs as needed	ERC	Other actions during the Program	Complied with; provisions included in the Philippine Energy Plan; Efficient lighting system initiative is being implemented with the support of the Global Environmental Facility.
8. Mitigate the Social Impact of the Transition to Competitive Markets in Electricity				
a. Do social impact analysis	Conduct a consumer impact assessment of the transition to competitive markets, and propose appropriate mitigation measures	DOE	Other actions during the Program	Complied with; completed in 2000 under ADB TA3127-PHI: Consumer Impact Assessment.
b. Compensate former NPC employees	Make appropriate separation payments to former NPC employees to mitigate the effects of removing benefits of employment with a state-owned enterprise	NPC and DOF	Other actions during the Program	Complied with; provisions were included in IRRs (Rule 33) and NPC's 2002 budget.
9. Ensure Environmentally Sustainable Power Generation				
Improve Metro Manila air quality	Take appropriate actions to (i) cease the normal operation of the Manila and Sucat power plants by 31 Dec 1999; (ii) thereafter use them only as standby in case of power shortages caused by delayed completion of transmission facilities associated with the Leyte, Masinloc, and Sual power plants; and (iii) cease operations of the Manila and Sucat power plants as oil-fired power plants by 31 Dec 2001.	NPC and DOE	Other actions during the Program	Complied with; Manila Power Plant was decommissioned in January 2000 and Sucat Power Plant was decommissioned in December 2001.

*Continued on next page.*

**POLICY MATRIX—Continued**

<b>Objective</b>	<b>Action Planned</b>	<b>Responsible Agency</b>	<b>Action to be Completed</b>	<b>Status and Assessment</b>
Summary of Individual Actions and Tranche Conditions				
	Conditions precedent to Board presentation		13	All complied with
	Conditions prior to second tranche release		8	Six complied with, two substantially complied with
	Conditions prior to third tranche release		6 <sup>a</sup>	Five complied with, one partly complied with
	Other actions during the Program		33	Twenty-four complied with, eight substantially complied with, one partly complied with
	Total		60	

<sup>a</sup> Actions 1.b.i. and 1.c.iii. are placed under one covenant in the Loan Agreement.

ADB = Asian Development Bank, BOT = build-operate-transfer, DBM = Department of Budget and Management, DOE = Department of Energy, DOF = Department of Finance, DSM = Demand-Side Management, EPIRA = Electric Power Industry Reform Act, ERC = Energy Regulatory Commission, ESCOs = electric service companies, GENCOs = generating companies, IRRs = implementing rules and regulations, NPC = National Power Corporation, OP = Office of the President, NEA = National Electrification Administration, NEDA = National Economic and Development Authority, PSALM = Power Sector Assets and Liabilities Management Corporation, RECs = rural electricity cooperatives, TRANSCO = National Transmission Corporation, USAID = United States Agency for International Development, WESM = wholesale electricity spot market.

Sources: Department of Energy, Department of Finance, Energy Regulatory Commission, National Power Corporation, Power Sector Assets and Liabilities Management Corporation.

## NEW STRUCTURE OF ELECTRIC POWER INDUSTRY

1. An electric power industry can be divided into four major sectors: generation, transmission, distribution, and supply. Power generation functions in the Philippines have historically been shared between the National Power Corporation (NPC) and various independent power producer (IPPs), while transmission has remained the responsibility of NPC. Distribution of electricity is handled by 20 investor-owned utilities, including the Manila Electric Company (MERALCO), and 119 member-owned electricity cooperatives (ECs) that manage distribution in rural areas. Supply is primarily undertaken by the distribution utilities. However, NPC is also engaged in supply, and is directly supplying 140 large customers. MERALCO is the largest of the private distribution utilities, and at present accounts for approximately 79% of NPC's electricity sales in Luzon, and 62% of nationwide electricity sales.

2. The Electric Power Industry Reform Act (EPIRA) and its implementing rules and regulations (IRRs) provide the framework for the restructured industry. The EPIRA provides for the privatization of the assets of NPC, the transition to the desired competitive structure, and defines the responsibilities of the various government agencies and private entities. It reduces the role of NPC to the operator of the Small Power Utilities Group (SPUG), which will be responsible for off-grid electrification programs, and creates two new government-owned corporations, namely the Power Sector Assets and Liabilities Management Corporation (PSALM) and the National Transmission Corporation (TRANSCO). Each new corporation has a separate existence with separate corporate financial structure and needs. The proposed operation of the various components of the restructured industry is described below.

### A. Generation

3. The EPIRA provides that the majority of NPC's generation assets are to be privatized in a manner that ensures that the market for power generation will be open and competitive. Upon implementation of a wholesale market, the wholesale price of electricity will not be regulated, except in certain monopoly circumstances. In accordance with the privatization requirements of the Act, PSALM has prepared a plan for the privatization of NPC's generation assets. In order to promote competition in the generation sector, the assets will be divided into a number of groups, each of which will be sold separately. In grouping the assets, the Act specifies that there will be (i) a sufficient scale of operations and balance sheet viability of the restructured units, (ii) broad geographic configurations of the portfolio to ensure efficiency of operations but without the formation of regional companies or concentration of market power, (iii) achievement of management and operational synergy without allowing a given portfolio of plants to dominate any part of the market or of the load curve, and (iv) account taken of such other factors as may be deemed beneficial to the best interests of the Government while ensuring attractiveness to potential investors.

4. The steam generating assets and the power generating plant of each geothermal complex are to be sold as one package through public bidding, and the ownership of the Caliraya-Botokan-Kalayaan pumped storage complex is to be transferred to PSALM.<sup>1</sup> NPC will continue to operate all unsold generation assets on behalf of PSALM under an operation and maintenance contract. The EPIRA provides, however, that at least 70% of the total capacity of NPC's generating assets, and NPC's IPP contracts located in Luzon and the Visayas, are to be privatized within 3 years from its effectiveness.

## **B. Independent Power Producer Contracts**

5. PSALM will acquire NPC's IPP contracts. The EPIRA provides for the privatization of these contracts. However, under the IRRs, this must be done in a way that it does not cause an increase in the stranded costs to be absorbed by the Government and consumers. To this end the Act allows PSALM, through open and transparent public bidding, to appoint qualified independent entities to act as IPP administrators. The Government has advised that the IPP administrators will endeavor to maximize revenues from the sale of electricity generated by the IPPs through an active bidding strategy in the wholesale market and will maximize the sale proceeds of IPP plants after the expiration of the build-operate-transfer contracts.

6. The EPIRA also provides for the formation of an interagency committee chaired by the Secretary of the Department of Finance to undertake a thorough review of all IPP contracts. In cases where contracts are grossly disadvantageous or onerous to the Government, appropriate legal remedies will be sought.

## **C. Transmission**

7. TRANSCO will own and operate the transmission grids and operate as a regulated common carrier business. In accordance with PSALM's privatization plan, TRANSCO will appoint a concessionaire to develop, operate, and maintain the transmission system. The concessionaire will be required under the concession to provide open and non-discriminatory access to all users of the transmission system. TRANSCO (or its concessionaire) will act as system operator under the wholesale electricity spot market (WESM) rules and in this role will be responsible for generator dispatch and for maintaining the security of the power system. Further, it will initially operate the market management system on behalf of an autonomous group market operator constituted by the Department of Energy (DOE) until such time as this function is handed over to an independent market operator.

## **D. Distribution**

8. Distribution is also to be a regulated common carrier business and, following the advent of retail competition, distribution utilities will collect wheeling charges from retailers for the use of their facilities. Prior to the advent of retail competition at the household level, the distribution utility will also act as the electricity supplier (or retailer) to its non-contestable connected customers. The retail rates charged by distribution utilities to their captive market are to be regulated on the principle of full recovery of prudent and reasonable economic costs incurred. Distribution utilities have to comply with the technical requirements of the Distribution Code and the IRRs. Failure to do so will serve as grounds for appropriate penalties or fines. The distribution utilities will, over time, assume responsibility for the subtransmission systems used to connect their networks to the transmission grids and are encouraged to pursue structural and operational reforms, including joint actions, to achieve economies of scale, efficiencies, reliability of service, and a reduction in the cost of compliance with the prescribed technical requirements.

9. The EPIRA provides that retail competition and open access to distribution networks is to be implemented no later than 3 years from the Act's effectiveness, subject to (i) the establishment of the WESM, (ii) approval of unbundled transmission and distribution wheeling charges, (iii) initial implementation of the cross-subsidy removal scheme, (iv) privatization of at least 70% of NPC's generating assets in Luzon and the Visayas, and (v) transfer of the management and control of at least 70% of NPC's IPP contracts to IPP administrators. Upon

the initial implementation of retail competition and open access, all electricity end-users with a monthly average peak demand of 1 megawatt will constitute the contestable market. Two years thereafter the open access threshold will be reduced to 750 kilowatts, following which the Energy Regulatory Commission (ERC) will periodically review the market performance and reduce the threshold as appropriate until it reaches the household demand level.

## **E. Supply**

10. Supply of electricity means its sale by a party other than a generator, or a distributor, in the franchise area of a distribution utility, using the wires of the distribution utility concerned. All suppliers of electricity to the contestable market require a license from ERC, which will promulgate IRRs with the required levels of technical capability, financial capability, and creditworthiness. With the introduction of retail competition, there will be opportunities for independent suppliers to retail electricity to contestable customers. These suppliers will be able to buy electricity from generators or from the wholesale market, and take advantage of the open access to distribution networks to transport the electricity to their retail customers.

## **F. Regulation**

11. The EPIRA abolished the existing Energy Regulatory Board (ERB), and created the independent ERC with expanded functions and powers. ERC will determine a new organization structure and compensation schedules, and existing ERB personnel, if qualified, will be given preference in filling ERC positions.

12. In accordance with the EPIRA, ERC's role has been expanded to include (i) setting performance standards for TRANSCO, distribution utilities, and suppliers; (ii) setting financial capability standards for the generating companies, TRANSCO, distribution utilities, and suppliers; (iii) enforcing the rules and regulations of the electricity spot market, activities of the market operator, and other participants in the spot market; (iv) determining the level of cross subsidies, and 3 years after the imposition of a universal charge, ensuring that the charges of TRANSCO or any distribution utility do not bear any cross subsidies between grids, within grids, or between customer classes except as provided in the Act; (v) amending or revoking the authority to operate of any person or entity that fails to comply with the EPIRA or its IRRs; (vi) establishing and enforcing a methodology for setting transmission and distribution wheeling rates, and retail rates for the captive market of a distribution utility; (vii) reviewing and approving changes in the conditions of service of TRANSCO or the distribution utilities; (viii) allowing TRANSCO to charge user fees for ancillary services; (ix) setting a lifeline rate for marginalized end-users; (x) monitoring and taking measures to penalize abuse of market power, cartelization, and anticompetitive and discriminatory behavior; (xi) monitoring activities in the generation and supply sectors to promote free market competition; and (xii) acting against any participant or player in the energy sector for violating any law, rule, or regulation governing the same, including the rules on cross-ownership, anticompetitive practices, or abuse of market position.

13. The EPIRA provides that no company or related group can own, operate, or control more than 30% of the installed generating capacity of a grid and/or 25% of the national installed generating capacity. It also provides that, except for existing contracts, no distribution company will be allowed to source from bilateral contracts more than 50% of its total demand from an associated firm engaged in generation. For the first 5 years from the establishment of the electricity spot market, distribution utilities can source up to 90% of their total demand from bilateral power contracts entered into since the effectiveness of the Act.

## **G. Wholesale Electricity Spot Market**

14. A WESM will be established to provide the mechanism for identifying and setting the price of actual variations from the quantities transacted under contracts between sellers and purchasers of electricity. The members of the WESM will include generation companies, distribution utilities, suppliers, IPP administrators, and large end-users. Jointly with the electric power industry participants, the DOE formulated the detailed rules for the WESM for determining the price of electricity not covered by bilateral contracts between sellers and purchasers of electricity. The price determination methodology will reflect accepted economic principles and provide equal opportunity to all electric power industry participants. The rules provide for (i) establishing the merit order dispatch instructions for each time period; (ii) determining the market-clearing price for each time period; (iii) determining the quantity of electricity bought by each market participant in each time period; (iv) facilitating the financial settlement for electricity bought and sold through the market; and (v) administering the market, including establishing criteria for admission to and termination from the market (which includes security or performance bond requirements), administering the voting rights of the participants, and surveillance and assurance of compliance of the participants with the rules and the formation of the WESM governing body.

15. A market operator in accordance with the WESM rules will implement the WESM. Initially, an autonomous group market operator will be formed by DOE to undertake the preparatory work and initial operation of the WESM. Not later than 1 year after the implementation of the WESM, an independent market operator, will be formed and the functions, assets, and liabilities of the autonomous group market operator will be transferred to such entity with the joint endorsement of the DOE and the electric power industry participants. The independent market operator will be financially and technically capable, with proven experience and expertise of not less than 2 years as a leading independent market operator of similar or larger size electricity market.

## NATIONAL POWER CORPORATION'S HISTORICAL FINANCIAL PERFORMANCE

**Table A3.1: National Power Corporation's Income Statement**  
(P million)

Item	Years						
	1996	1997	1998	1999	2000	2001	2002
Energy Sales (GWh)	33,381	36,442	37,321	36,987	37,320	37,042	39,380
Increase in Sales (%)	7.6	9.2	2.4	(0.9)	0.9	(0.7)	6.3
Total Average Revenue (P/kWh)	1.91	2.12	2.32	2.42	2.68	3.12	2.96
Increase in Average Revenue (%)	12.8	11.0	9.6	9.6	10.6	16.4	(5.3)
Total Revenue	63,635	77,144	86,611	89,686	100,119	115,698	116,433
Operating Expenses	50,317	65,519	79,696	81,196	94,681	108,860	115,910
Net Operating Revenue	13,318	11,625	6,915	8,490	5,438	6,838	523
Interest Expenses	6,607	7,380	11,005	12,955	15,064	15,108	17,876
Income after Finance Charges	6,711	4,245	(4,090)	(4,465)	(9,626)	(8,270)	(17,353)
Other Income	(1,168)	2,968	11,454	9,427	16,488	21,048	14,539
Other Expenses	0	4,158	10,981	10,914	19,826	23,155	30,921
Net Income	5,543	3,055	(3,617)	(5,952)	(12,964)	(10,377)	(33,735)
Rate Base	161,536	161,808	215,053	251,989	244,756	236,305	237,703
Rate of Return (%)	8.24	7.18	3.22	3.37	2.22	2.89	0.22

GWh = gigawatt-hour, kWh = kilowatt-hour, NPC = National Power Corporation.

Sources: National Power Corporation, Asian Development Bank estimates.

**Table A3.2: National Power Corporation's Balance Sheet**  
(P million)

Item	Years						
	1996	1997	1998	1999	2000	2001	2002
Net Utility Plant in Service	155,504	187,319	255,464	255,448	243,805	242,759	232,646
Work in Progress	42,733	72,574	31,623	22,156	29,721	27,311	36,290
Total Utility Plant	198,237	259,893	287,087	277,604	273,526	270,070	268,936
Capital Lease	0	173,620	166,339	350,860	360,033	367,173	454,721
Other Assets & Investments	219,000	16,607	22,362	46,671	53,990	61,613	78,143
Current Assets	31,991	32,958	36,342	34,208	41,165	40,806	60,348
Deferred Charges	5,519	134,314	132,491	151,609	259,646	264,913	288,960
Contingent Assets	2,935	1,679	1,471	1,421	1,415	1,410	1,903
Total Assets	457,682	619,071	646,092	862,373	989,775	1,005,985	1,153,011
Total Equity	98,933	111,942	129,079	124,157	109,717	92,104	58,930
Long-term Liabilities	300,280	197,815	214,488	238,825	292,001	290,135	376,316
Lease Obligation – BOT	0	0	230,498	406,201	485,806	505,037	595,108
Current Liabilities	54,937	63,049	69,390	90,316	98,434	113,170	118,420
Total Liabilities	355,217	260,864	514,376	735,342	876,241	908,342	1,089,844
Deferred Credits	597	244,586	1,166	1,453	2,402	4,129	2,334
Contingent Surplus	2,935	1,679	1,471	1,421	1,415	1,410	1,903
Total Equity and Liabilities	457,682	619,071	646,092	862,373	989,775	1,005,985	1,153,011

BOT = build-operate-transfer, NPC = National Power Corporation.

Source: National Power Corporation.

**Table A3.3: National Power Corporation's Cash Flow**  
(P million)

Item	Years						
	1996	1997	1998	1999	2000	2001	2002
Net Income	5,543	3,055	(3,617)	(5,952)	(12,964)	(10,377)	(33,735)
Depreciation/Depletion	7,920	8,781	12,593	14,193	13,305	14,185	14,166
Amortization of Capital Recovery	4,562	7,282	7,282	8,947	15,327	17,148	19,839
Interest Expense	6,607	7,380	11,005	12,955	15,064	15,108	17,876
Working Capital Movement	1,493	(6,690)	(1,820)	3,321	317	(7,139)	(14,250)
Other Non-cash Movements	8,643	5,093	6,061	9,194	18,133	19,445	31,701
Total Internal Cash Generation	34,768	24,901	31,504	42,658	49,182	48,370	35,597
Foreign Loans	11,768	16,787	14,902	41,402	7,460	18,379	(7,108)
Equity/Advances	361	270	567	584	332	2,355	0
Grants	325	68	60	128	(42)	0	0
Bond Proceeds/Sales of Barges	9,437	0	11,992	2,111	20,156	23,088	69,934
Total Other Sources	21,891	17,125	27,521	44,225	27,906	43,822	62,826
Total Sources of Funds	56,659	42,026	59,025	86,883	77,088	92,192	98,423
Principal Repayments (Regular)	11,921	11,217	12,480	19,930	28,016	24,183	25,070
Payment of Lease Obligation	4,006	7,833	13,286	13,402	23,413	29,571	32,641
Interest Expense	6,327	6,244	8,546	12,955	15,064	15,108	17,876
Other Debt Payments	0	0	0	0	363	450	2,365
Total Debt Service	22,254	25,294	34,312	46,287	66,856	69,312	77,952
Balance for Investment	34,405	16,732	24,713	40,596	10,232	22,880	20,471
Capital Expenditure	23,315	16,965	27,370	12,314	9,666	13,964	14,672
Balance after Capital Expenditure	11,090	(233)	(2,657)	28,282	566	8,916	5,799
Other Uses	9,338	6,204	(1,621)	28,104	1,301	10,019	5,463
Total Uses of Funds	54,907	48,463	60,061	86,705	77,823	93,295	98,087
Balance Available	1,752	(6,437)	(1,036)	178	(735)	(1,103)	336
Debt Service Coverage Ratio	1.56	0.98	0.92	0.92	0.74	0.70	0.46

NPC=National Power Corporation, PSALM=Power Sector Assets and Liabilities Management Corporation.

Sources: National Power Corporation, Asian Development Bank estimates.

**SUMMARY TERMS AND CONDITIONS FOR EUROYEN OFFERING BY  
POWER SECTOR ASSETS AND LIABILITIES MANAGEMENT CORPORATION**

Terms	In Principle Approval		Final New Issue Pricings (10 December 2002)	
	18-year Offering Fixed-Coupon Guarantee	20-year Offering Fixed-Coupon Guarantee	18-year Offering Fixed-Coupon Guarantee	20-year Offering Fixed-Coupon Guarantee
Issuer	PSALM	PSALM	PSALM	PSALM
Amount (million)	JPY36,300 (US\$300 million)	JPY24,200 (US\$200 million)	JPY24,750 (US\$200 million)	JPY37,000 (US\$300 million)
Currency	JPY	JPY	JPY	JPY
Tenor	18	20	18	20
Duration	12.09–12.01	11.83–11.76	12.00	11.74
Type	Bond	Bond	Bond	Bond
Guarantee Structure	Principal and 10 years of back end interest payments	Principal and 10 years of back end interest payments	Principal and 10 years of back end interest payments	Principal and 10 years of back end interest payments
Credit Rating Estimate	BBB Range (Standard & Poor's)	BBB Range (Standard & Poor's)	(P) Baa1 (Moody's)	(P) Baa1 (Moody's)
Coupon (%)	3.12–3.22	3.45–3.55	3.20	3.55
Reoffered Spread <sup>a</sup> (%)	1.50–1.60	1.75–1.85	1.60	1.85
Reoffered Price (%)	100.000	100.000	99.457	99.645
Benchmark <sup>b</sup>	Interpolated JPY Swap Rate	20-year JPY Swap Rate	Interpolated JPY Swap Rate	20-year JPY Swap Rate
	1.620	1.700	1.640	1.725
Reoffered Yield (%)	3.12–3.22	3.45–3.55	3.240	3.575
IRR without fees (%)	3.52–3.62	3.84–3.94	3.64	3.97
Underwriting Gross Fees (%)	0.65	0.65	0.65	0.65
Cost with guaranteed Fees (%)	3.52–3.62	3.84–3.94	3.64	3.97
Spread with guaranteed Fees (%)	1.90–2.00	2.14–2.24	2.00	2.25
All-in-Cost (IRR %)	3.57–3.67	3.89–3.99	3.69	4.02
All-in-Spread (%)	1.95–2.05	2.19–2.29	2.05	2.30
ADB Guarantee Coverage <sup>c</sup> (%)	71.46–71.00	64.07–63.62	70.91	63.51

IRR = internal rate of return, LIBOR = London interbank offered rate, PSALM = Power Sector Assets and Liabilities Management Corporation.

<sup>a</sup> Nomura's underwritten terms are based on reoffer spreads over JPY LIBOR. All interest rate, swap spread, and basis swap risks are born by the issuer.

<sup>b</sup> All benchmarks and reference prices as at 7 November and 10 December 2002 respectively

<sup>c</sup> Discounted at 5.37%

Notes : All pricing indications and calculations based on semi-annual 30/360 day count

The above incorporates a counter-guarantee given by the Republic of the Philippines to the Asian Development Bank.

Source: Power Sector Assets and Liabilities Management Corporation.