Parsons Brinckerhoff Associates

Asian Appraisal Company, Inc.
professional business and property consultants

ASSET VALUATION
FOR PRIVATELY OWNED DISTRIBUTION UTILITIES
SUBJECT TO PERFORMANCE BASED REGULATION

FINAL REPORT
CAGAYAN ELECTRIC POWER & LIGHT COMPANY
VALUATION DATE: 30 JUNE, 2006
(FOR ASSETS IN USE AS AT 30 APRIL, 2006)

FOR

ENERGY REGULATORY COMMISSION

ENERGY REGULATORY COMMISSION ERC PHILIPPINES

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1. EXECUTIVE SUMMARY

1.1 SUMMARY OF VALUATION

PB Associates (PBA) and Asian Appraisal Company, Inc. (AACI) has been retained by ***Energy Regulatory Commission (ERC)*** to conduct and prepare an appraisal of the fixed assets exhibited to us as being owned by ***Cagayan Electric Company*** (herein referred to as "CEPALCO"). We confirm that we have conducted the necessary inspection, made relevant inquiries and obtained such further information available for the purpose of providing you with our opinion of the value of the Fixed Assets.

It is our understanding that this appraisal will be used as support for rate setting and you wish us to render an opinion of the ***Appraisal Values*** of Cepalco's Fixed Assets as of ***June 30, 2006.***

The valuation was performed in accordance with the standards issued by the Energy Regulatory Commission under the ERC Asset Valuation Guidelines. The methodology adopted is consistent with the internationally accepted appraisal standards as stated in the Uniform Standards of Professional Appraisal Practice (USPAP) and with the International Valuation Standards, Sixth Edition 2003, issued by the International Valuation Standards Committee in London, United Kingdom.

Premised on the accompanying narrative descriptive information, valuation methodology, and summary of values, our opinion of the Appraisal Values of the existing Fixed Assets for continued use as part of a going concern at April 30, 2006 and valued as at 30 June, 2006, is fairly and reasonably represented as follows:

Table 1: Valuation Totals as at June 30, 2006

	Depreciated Historic Cost	Replacement Cost	Optimised Replacement Cost	Optimised Depreciated Replacement Cost
Totals	1,169,716,247	3,343,905,387	2,966,506,937	1,945,938,961

Table 1 presents our opinion of the value of the Cepalco distribution utility as at June 30, 2006 based on the DHC and ODRC valuation approaches explained within this report.

As per the requirements of clause 4.8 of the DWRG the tables contained in Appendix A of this report present the above values subtotalled by asset category.

1.2 PB ASSOCIATES ODRC VALUATION METHODOLOGY

1.2.1 Valuation of Electrical System Fixed Assets

PB Associates employed the following process:

Step 1 – Determine Information Gaps

PB Associates began with an extract of the DUs Fixed Asset Register. The FAR is an accounting register and must be conformed to an ODRC register based on defined asset subcategories.

PB Associates identified all assets in the DUs FAR as well as the availability of data required to perform an ODRC valuation.

The data required from the FAR was as follows:

1. Asset description;
2. Physical count (assets in use);
3. Historical cost (installed cost);
4. Installation date;
5. Physical location; and
6. Electrical location.

After due examination of financial and technical data repositories, PB Associates concluded the following:

None of the DUs were able to provide the physical or electrical locations without conducting an extensive and time consuming mapping process. The timeframe required for such mapping, to be robust, is years not months. Accordingly it was concluded that adjustment of replacement costs by specific location multipliers was not feasible for this valuation.

Step 2 – Transform the DU FAR to an ODRC Register

PB Associates guided the development of the DU FAR, working with the DU's commercial and technical staff as they transformed their FAR into a "worked" register suitable for entry into PB Associates ODRC register format.

This process comprised many iterations as the DU FAR's were used for accounting purposes and required a substantial allocation effort to conform the register.

This step required listing all asset types found in the DU register. A full listing is provided in a companion paper to the ERC Asset Valuation Guidelines – "Proposed Standard Asset Categories, Replacement Costs & Multipliers for Philippines Distribution Utilities".

Step 3 – Verify the Asset Register data

The ERC Position Paper called for the following approach to asset verification:

Substation Assets – For major substations, the verification was to a 100% inspection standard.

Repetitive Assets – For repetitive assets the verification was to a sampling process. The sampling was based on sampling theory taking into account a finite population correction factor. This approach was used for the 2004 Reproduction Cost New valuation. As there quantity of repetitive assets is very large and physical inspection a costly and time consuming task, only the main sub-categories of assets were inspected to a 99% confidence level. The main categories were poles, overhead conductor, line transformers (below 20kV) and meters. For a large population, the rule of thumb is to inspect around 280 locations to achieve a 99% confidence level. For the remaining (minor) asset subcategories, inspections were to a 95% confidence level.

It is technically impossible to verify the assets inspected in the field because there is no location identifier in the DUs Fixed Asset Registers.

PB Associates adopted a proxy method (described in Section 3.2.2).

Step 4 – Determine Standard & Non-Standard Assets (materiality)

Once the 'worked' registers were ready, PB Associates analysed the physical counts and historical costs to determine the common or standard assets according to a 5% materiality threshold. The analysis determined which assets should be given a standard replacement cost (material asset types) and which assets would need to be valued using indexed historical costs or MEA valuation methods.

Step 5 – Finalise the RC Register

The assets in the verified register were classified according to the valuation methodology i.e. assets for RC valuation, assets for indexed historical cost valuation and assets for replacement with Modern Equivalent Assets (MEA).

Step 6 – Determine Optimisation

The rules pertaining to optimisation are specified in the ERC's Asset Valuation Guidelines. The basis for optimisation of each of the DU's assets is recorded in Appendices A to C of this companion paper.

Step 7 – Finalise the ODRC Register

This step involves entering the following settings into the register from the Appendices B of the ERC Asset Valuation Guidelines:

- Standard Asset Lives
- Indexation Factors (for Historical Cost valuation)
- Standard Replacement Costs

Step 8 – Perform the ODRC Valuation

Step 8a – For standard assets, depreciate according to the RC and remaining life to a 5% Optimised Replacement Cost residual value.

Step 8b – For non-standard assets, apply indexation, then depreciate according to the remaining life to a 5% ORC residual value.

Step 8c - Optimise the ODRC Register by making adjustments as single line entries in accordance with the recommendations in Appendices A to C of this companion paper.

In practices Steps 8a and 8b are carried out automatically by the logic embedded in the

Step 8c is carried out manually. This is because different techniques are required to optimise assets valued by RC and assets valued using indexed historical costs. In some cases individual line entries are identified for optimisation while in other cases a random selection of assets was made and this was performed manually.

This completes an explanation of the process employed by PB Associates to value the electrical system fixed assets and non-electrical assets of Cepalco.

1.2.2 Valuation Settings

Materiality of 5% has been applied during the valuation process.

GST (VAT) has been included in replacement costs as Cepalco is not VAT exempt. VAT was also included in the previous valuation.

2. CEPALCO ASSET REGISTERS

In this section we discuss the existing valuation records for Cepalco, fixed asset registers, accounting manual, engineering information and other documents which were used to develop an ODRC register.

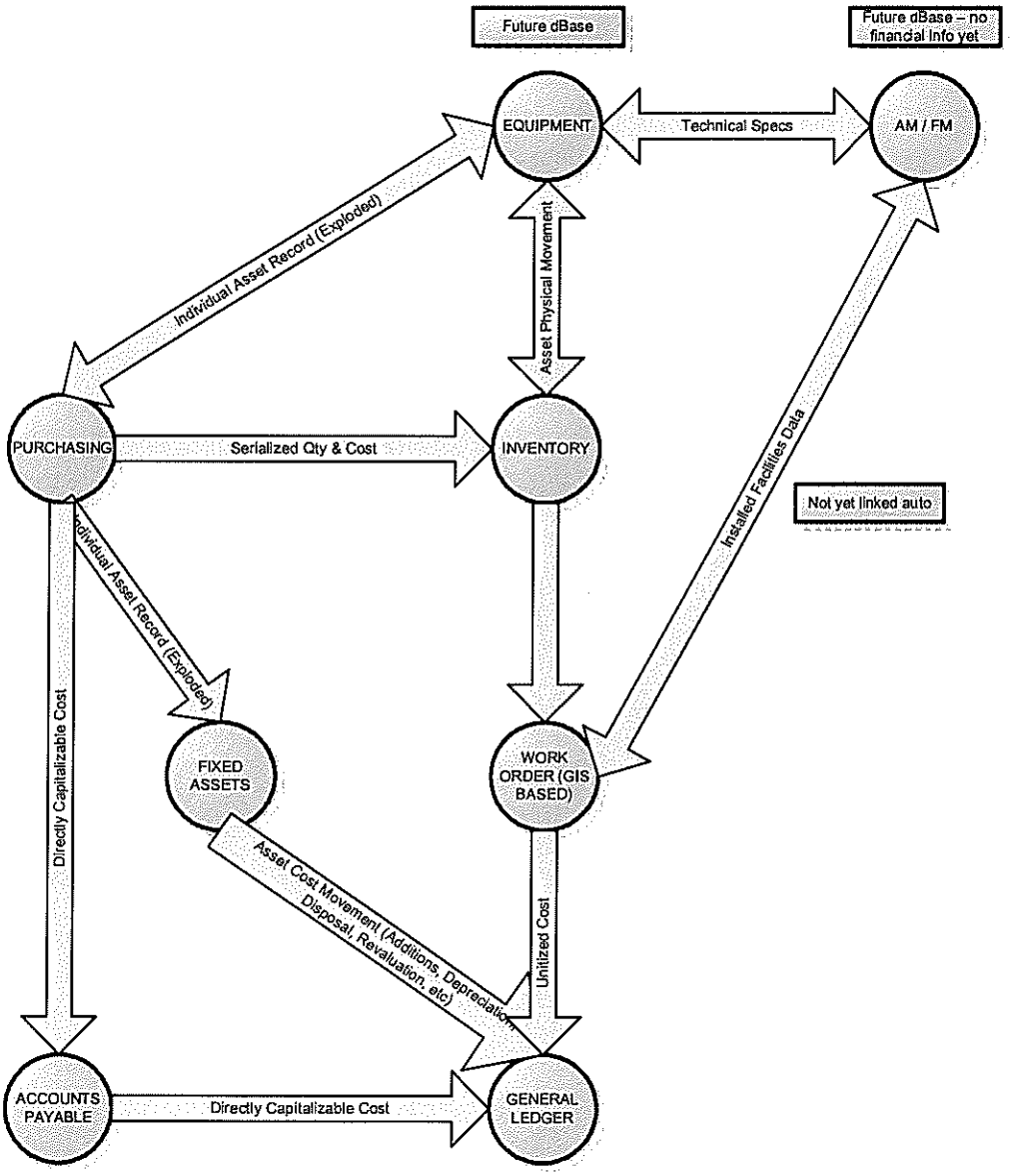
2.1 FINANCIAL DATA SYSTEMS

2.1.1 Fixed Asset Register

Cepalco maintains a Fixed Asset Register (FAR) that is built in the form of an Excel spreadsheet.

The register is integrated with other systems as shown in Figure 1:

Figure 1: Cepalco Systems Relationship Diagram



The primary key for the FAR is the Stock No. reference. This number is a unique number for each asset type.

There are four major categories of assets captured in Cepalco's asset records described as "attachment types" i.e. poles, devices, structures and wires. The Structure category is a set of pole attachments and each Structure has multiple stock numbers linked to it. The total number of Structures defined in the system is 416. In total there are around 33,000 assets allocated to these 416 Structures. Of these, the top 20 Structures account for 78% of the total asset count.

The completion date of construction (i.e. date of capitalization of the asset) is captured in the register. Pending construction, the date of purchase of the asset is taken from the Inventory System and recorded in the register. This practice began from around 2000 onwards, so not all assets have an installation date recorded against them, and the repetitive assets appear as "batches".

Location data is not recorded in the FAR at this time.

The asset register is updated monthly to account for additions and retirements.

Depreciation is determined using a separate spreadsheet. The asset lives are computed as the weighted average life for group of assets i.e. poles, distribution transformers, etc. Cepalco has previously depreciated assets to zero value at the end of their assigned economic life.

For non-fixed assets, such as vehicles, the depreciation is made against the actual purchase date.

2.1.2 Accounting Manual

Cepalco has adopted an accounting classification that is aligned with the ERC categories.

2.2 TECHNICAL DATA SOURCES

2.2.1 Engineering Information

Cepalco has a robust Automated Mapping / Facilities Management System (AM / FM) that is based on AutoCad 2000. This mapping facility is manipulated by Access 97 (using Visual Basic routines).

Cepalco maintains separate databases for distribution transformers, meters, surge arrestors and cut-outs (under the control of Cepalco's Technical Services Department).

2.2.2 Automated Mapping / Facilities Mapping (AM / FM)

Cepalco maintains an Automated Mapping / Facilities Management (AM / FM) system that is linked to a Geographic Information System (GIS)

The AM / FM system contains detailed information for system fixed assets including physical location, category, subcategory. However, the system does not hold the installed date for the majority of assets.

Cepalco has entered operations maps and drawings into the GIS system, but has not entered asset details. Such details are contained on electronic maps that

reside in a separate system (e.g. Pole Maps). These maps were used as an input to the asset verification processes.

The functionality of the Cepalco AM / FM and GIS system supports selection of assets based on the following principles:

- Assets located within a selected set of rectangular coordinates;
- Asset Stock No's within a selected set of rectangular coordinates; and
- Assets by voltage level within a selected set of rectangular coordinates.

The functionality supports computation of distances between poles, and the service drop length (between point of connection and the customer meter). This information is useful to establish the total kilometres of conductor as well as the total route length of feeders of different voltage level.

The AM / FM system captures the number of customers which is a proxy for the number of meters, and contains physical locations.

Cepalco was requested to undertake a reconciliation to determine the difference in physical counts contained within the Fixed Asset Register and AM / FM systems. It was explained to PB Associates that the discrepancies in asset counts were significant as the AM / FM system is under development.

3. OPTIMISED DEPRECIATED REPLACEMENT COST (ODRC) REGISTER

The ODRC Register was developed form the Cepalco Fixed Asset Register data and verified using ocular inspection.

3.1 ODRC REGISTER DEVELOPMENT

3.1.1 Substations

The ODRC register for substation equipment was built from the Fixed Asset Register. The account has a relatively small number of items and the items are identified with standard descriptions.

The installation date of each item was captured during site inspections from equipment nameplate information. Where such information was missing, an estimate was made based on adjacent equipment, taking into account the type and condition of the item of interest.

Taking this approach to register development, the substation equipment fixed asset register account could be readily verified from site inspection. The module counts and composition were verified as part of the site inspection process described in Section 3.2.

3.1.2 Repetitive Assets

In the case of the repetitive assets, the ODRC register was developed from Cepalco's Fixed Asset Register data using a cleansing and sorting process. This approach was supported by a high degree of uniformity of standard asset descriptions in the repetitive asset accounts.

3.2 VERIFICATION OF ODRC REGISTER

PB Associates / AACI have conducted 100% ocular inspection on the following:

- Lands – which are located at 22 sites;
- Structures & Improvements – which are located at 14 sites; and
- Station Equipment – which are located at 6 substation sites.

The remainder of the fixed assets, which are repetitive in nature, were inspected using Sampling Method.

3.2.1 Substations

PB Associates / AACI captured asset details from nameplate data using a systematic inspection process. The data captured included installation dates.

Extensive photographic records were taken and recorded in electronic form for purposes of verification.

The ODRC register was verified using the site inspection information. No adjustments were necessary as the Single Line Diagrams proved to be accurate records of the substation equipment in use.

3.2.2 Repetitive Assets

Ocular inspection was carried out for 100% of the Land and Buildings and Structures and Improvements (A1 and A2 categories).

The remaining fixed assets, which are repetitive in nature, were inspected using Sampling Method. PB Associates and AACI used the Cepalco AM / FM system and GIS system to develop a physical inspection schedule for the repetitive assets. The sampling percentages adopted considered the factors of location, volume, peso materiality and type of assets.

As the materiality of repetitive asset categories A4, A6, A12 and A16 is very high compared to the other categories, only these sub-categories of assets were inspected to a 99% confidence level. The remaining assets were inspected to a 95% confidence level.

Table 3: Sampling Statistics

Types of Assets		Total No. of Locations	Sampled Locations (Confidence)
A4	Towers, Poles and Fixtures	24,754	267 (99%)
A6	Overhead Conductors and Devices	~5,000,000	271 (99%)
A8	Underground Conduit	0	0
A10	Underground Conductors and Devices	0	0
A12	Line Transformers	1,225	222 (99%)
A14	Power Conditioning Equipment	0	0
A15	Services	2,954	248 (99%)
A16	Meters, Instruments & Metering Transformers	96,380	270 (99%)
A20	Street Lighting and Signal System	0	0
B3	Furniture and Office Equipment	1,862	91 (95%)
B4	Transportation Equipment	144	58 (95%)
B5	Stores Equipment		
B6	Tools, Shop and Equipment	8,130	95 (95%)
B7	Laboratory Equipment	70	41 (95%)
B8	Computer Equipment and Peripherals	412	78 (95%)
B9	Power Operated Equipment		
B10	Communications Equipment	408	78 (95%)
B11	Miscellaneous Equipment	389	80 (95%)

It was not possible to verify the assets inspected in the field because there is no location identifier in the Cepalco Fixed Asset Register.

This verification problem is linked to the current maturity of the Cepalco fixed asset registers, and can only be addressed over time through a systematic field inspection program. (This approach was taken in New Zealand and Australia in the 1990s. For a small company servicing 180,000 customers, the process took three years to complete; it is a major undertaking that sits outside the scope of this valuation).

Reliance on other records for verification introduces a 'circularity' problem. Purchase vouchers used as the data source for data entry into the fixed asset register cannot be considered as useable – such records verify that the asset

was correctly entered into the fixed asset register, but this is not a sound basis for verifying that the asset exists in the field.

To overcome this problem PB Associates adopted a proxy method.

First, PB Associates verified that the physical counts in the Cepalco Fixed Asset Registers reconciled to the counts in the ODRC register.

Second, we examined the physical counts recorded in the Fixed Asset Register against those recorded in the AM / FM system. It was found that the counts did not reconcile to sufficient accuracy to be used as a sound basis for verification. We relied instead on verification against system maps and plans.

The verification of asset age (installed date) also presented a difficulty as the installation date records for the majority of repetitive assets were not complete. The installation date was captured in the AM / FM system for all concrete poles (38% of total count) and steel poles (2% of total count).

For the remaining repetitive assets, Cepalco engineers estimated the installed date using the best available information. Installation dates for transformers, meters, surge arrestors and cut-outs were sourced from the Technical Services databases.

PB Associates / AACI reviewed the age estimates made by Cepalco engineers, based on a random sample of assets and was satisfied that the process employed was as robust as could be expected.

The results of the field inspections of repetitive assets were as follows:

(i) Cepalco Electrical System Assets

Table 4: Sampling Results

	No of Samples	No of Correct Samples	No Wrong Sample	% Error	% Correct	Comment
Distribution Poles	243	243	0	0%	100%	Poles matched pole location and construction type
Distribution Overhead Conductor	23.5km	23.5km	0	0%	100%	Conductor matched pole type construction
Distribution Transformers	118	116	2	2%	98%	Transformers had been upgraded since field inspection
Line Capacitors	31	31	0	0%	100%	

Table 5: Condition Assessment

Asset Type	Condition Rating
Steel Poles	Good
Concrete Poles	Good
Wood Poles	Fair
Conductors	Good / Some polluted
Line Transformers	Good
Capacitors	Good

No adjustments to the counts were necessary as the inspections revealed a match between the Cepalco pole map data and assets in the field.

(ii) Cepalco Non-Electrical System Assets

Table 6: Sampling Results

Plant Account	No of Samples	No of Correct Samples	No Wrong Sample	% Error	% Correct	Comment
B3 – Furniture & Office Equipment	96	96	0	0%	100%	
B4 –Miscellaneous Equipment	80	80	0	0%	100%	
B6 – Tools Shop & Garage Equipment	100	100	0	0%	100%	
B7 – Laboratory Equipment	45	45	0	0%	100%	
B4 – Transportation Equipment	60	53	7	11.67%	83.33%	Not available during inspection
B10 – Communication Equipment	75	75	0	0%	100%	

No adjustments to the counts were justified based on the inspection data.

3.2.3 Statement of Verification

On completion of the adjustments, the Consultant considered the Fixed Asset Register to be verified to within a statistical accuracy of 99% for substation equipment and to 95% for repetitive assets.

4. RECONCILIATION BETWEEN ODRC & PREVIOUS VALUATIONS

This section describes the previous valuation methodologies that have been applied to the Regulated Entities and how they relate to the ODRC methodology; in particular we highlight the main similarities and differences between the different valuation methods. Reconciliation is performed between the ODRC valuation, Historical Costs and Appraised Values as at December 31, 2004.

4.1.1 Background

Asian Appraisal Company Inc (AACI), Philippines, undertook Cost of Reproduction, New and Sound Value/Fair Market Value In Continued Use valuations for the Regulated Entities in 2004 for the purpose of rate setting.

The methodologies adopted were in accordance with the internationally accepted appraisal standards as stated in the Uniform Standards of Professional Appraisal Practice (USPAP).

4.1.2 Definitions

For the system fixed assets of the Regulated Entity, the Cost of Reproduction, New and Sound Value valuations were prepared as at the 31 December 2004. The two types of asset valuation approaches are defined below:

Cost of Reproduction, New: This value is defined as the estimated amount of money needed to acquire in like kind and in new condition an asset or group of assets, taking into consideration current prices of materials, labour, manufactured equipment, contractor's overhead, profit and fees, and all other attendant costs associated with its acquisition and installation in place, without provision for overtime or bonuses for labour, and premiums for materials.

Sound Value/FMV in Continued Use: This value is the Cost of Reproduction, New less accrued depreciation as evidenced by the observed condition of assets in comparison with new units of like kind tempered by consideration given to extent, character and utility of the property which is to be continued in its present use as part of a going concern, but without specific reference to earnings.

The Cost of Reproduction, New and the Sound Value/FMV in Continued Use valuations are a useful input into preparing the ODRC valuation, but there are some key differences to note.

4.1.3 Comparison with the ODRC

For a point of reference between previous valuations methods and ODRC the Cost of Reproduction, New is similar to the Replacement Cost input to the ODRC and the Sound Value/FMV in Continued Use is similar to the Depreciated Replacement Cost. The major differences being:

- the way the asset depreciation is calculated, and
- the removal of excess network capacity through optimisation.

For the Cost of Reproduction, New valuations prepared as at 31 December 2004, the undepreciated replacement costs were determined on an individual equipment item basis. Functional obsolescence was considered and this

approach is conceptually consistent with the Modern Equivalent Asset (MEA) approach used in the ODRC.

For the Cost of Reproduction, New depreciation is not applied, except for the case of some repetitive assets (everything expect zone substations).

For the Sound Value method, physical wear and tear or condition is included as an input in the valuation and hence the calculation of the depreciation is calculated on the remaining life which had been assessed as part of the valuation process. Assessing the remaining life is not a requirement of the ODRC method whereby asset condition is dealt with by determining a standard asset life. The advantage of using "Standard Asset Lives" under the ODRC method is that there is no subjectivity introduced between different appraisers. For major plant items it is very difficult to determine the condition without conducting an "intrusive" inspection of some type and this is clearly outside the boundaries of a valuation exercise.

4.2 LAND & BUILDINGS

For the land and buildings a valuation was prepared as of 31 December 2004.

4.2.1 Land

Land was valued on the basis of "Fair Market Value" which is the amount in terms of money which the property would bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and the seller, each acting prudently, knowledgeable and assuming the price is not affected by undue stimulus. As a result the Fair Market Value acknowledges that if the land was not used for network purposes it could be put to an alternative use.

The Market Data Approach method of valuation wherein actual sales and offered listings of properties within the vicinity was compared with the property under appraisal on the factors of location, size, shape of the lot, time element, utilization, improvements, terrain, bargaining allowance and other market constraints.

Historical Cost Indexation was used to arrive at the prevailing market value and was used if there was no available adequate market data on sales and offered listings that could be gathered on the property subject of appraisal.

AACI has employed the Fair Market Value approach for valuing of land as at June 30, 2006.

4.2.2 Improvements (Buildings and Other Land Improvements)

For the December 31, 2004 valuation, the value of the improvements was estimated by the use of the Cost Approach. Under this approach, an estimate was made on the current Cost of Reproduction, New of the improvements in accordance with the prevailing market prices for materials, labor, and contractor's overhead, profit and fees. Adjustments are then made to reflect depreciation resulting from the observed physical deterioration.

In estimating the Cost of Reproduction, New of the improvements, the Modified Quantity Survey Method was used. This method required an analysis of the improvements by breaking them down into major components such as foundation, columns, beams, floorings, walls, roofing, etc., using workable units

as lineal meter, square meter, cubic meter or other appropriate basic unit. Equally given importance were the interior finishes, i.e. floor finishes, wall finishes, ceiling finishes, etc.

Bills of quantities for each building component were developed on the basis of current costs of materials, labor, plant and equipment prevailing in the locality to arrive at the direct costs of the improvements, whereupon indirect costs such as contractor's profits, overhead, taxes and fees and other related expenses are then added.

AACI has employed the Cost Approach for valuing of improvements as at June 30, 2006.

4.3 SPECIALISED AND NON-SPECIALISED ASSETS

Non-system assets were listed and classified as either Non-Specialised Assets or Specialised Assets.

- Non-Specialised Assets are those assets that are not specific to the industry and would be readily acquired and disposed of in the ordinary course of business.

- Specialised Assets are those that exist for a purpose which is of particular advantage and may be unique to the industry, and/or those assets which are not normally traded in a secondary market place (except as part of a total entity by reason of their physical characteristics).

The valuation of Non Specialised Assets depends upon the manner in which the assets are acquired. The ERC Asset Valuation Guidelines state that where assets are normally acquired in a secondary market, the price of a second-hand asset is relevant in determining the value. Where assets are not normally acquired in a secondary market, the price of a new asset (adjusted to take account of service potential and the impact of other obsolescence factors) is relevant in determining the value.

For specialised plant, as there is no trading market for such assets, the appropriate value based upon the guidelines is the lower of the current replacement cost and the current reproduction cost. This is consistent with the Optimised Depreciated Replacement Cost method.

Having determined the appropriate classification and categorisation of the assets under the deprival value concept the following approaches were adopted:

Table 7: Valuation Approach

Categorisation	Valuation Approach
Non-Specialised	Market Comparison Approach or Income Approach or Depreciated Replacement Cost Approach depending on availability of data
Specialised	Lower of the current replacement cost and current reproduction cost

These approaches were employed for the December 31, 2004 valuation.

The non-network assets were valued in accordance with the following categorization:

General Plant (Non-network Assets)

- Structures and Improvements (non-network related)
- Office Furniture and Equipment
- Transportation Equipment
- Stores Equipment
- Tools, Shop and Garage Equipment
- Laboratory Equipment
- Information systems equipment (non-network related)
- Power-operated Equipment
- Communication Plant and Equipment
- Miscellaneous Equipment

4.4 RECONCILIATION

The following Table contains a comparison of the ODRC valuation as at June 30, 2006 and the Reproduction, New and Sound Value valuations as at December 31, 2004.

Table 10: Reconciliation

	Valuation Method	Dec 31, 2004 Php Million	Valuation Method	Jun 30, 2006 Php Million
Distribution Plant	Reproduction Cost, New	2,239	Replacement Cost	2,852
	Sound Value	1,572	ODRC	1,717

	Valuation Method	Dec 31, 2004 Php Million	Valuation Method	Jun 30, 2006 Php Million
General Plant	Reproduction Cost, New	387	Replacement Cost	492
	Sound Value	334	ODRC	229
Total	Reproduction Cost, New	2,626	Replacement Cost	3,344
	Sound Value	1,906	ODRC	1,946

4.4.1 Distribution Plant

In total the Distribution Plant asset valuation has increased by **27.4%** (RC / RCN Values) and **9.2%** (ODRC / Sound Value).

In the Philippines, CPI increases have averaged around 8% per annum, so it is to be expected that the increase between Dec, 2004 and June, 2006 would be at least as high as **12%** (~Php270 M).

As discussed in Section 3.3 of the Replacement Costs report (refer Appendix B), commodity metals prices have increased substantially in the 12 months from mid 2005. PB Associates has not passed this price increase through to 2006 replacement costs in full, but has allowed an escalation in keeping with CPI.

Cepalco has been investing capital at a rate of ~ Php200 Million per annum. Accordingly, we would expect to see an increase in value of the Reproduction Cost, New of ~Php300 Million.

In total we would expect to see an RCN to RC increase of Php570 Million or **25.5%**. The actual increase is **27.6%** or a net increase of **2.1%**. This figure is within expectation.

4.4.2 General Plant

In total the General Plant asset valuation has increased by **27%** (RC / RCN Values) and decreased by **31.4%** (ODRC / Sound Value). The increase is greater than a 12% CPI rise due to new capital investment as Cepalco has invested in general plant, while the decrease shows that the straight line depreciation method employed results in a greater amount of depreciation than previously.

4.4.3 Overall

a) 5% Depreciation Residual on ORC

This new depreciation allowance has a total value of approximately Php100 Million and has increased the ODRC valuation by this amount compared to Sound Value.

This residual was not applied for the 31 December 2004 valuation. It is meant to ensure that assets with service potential are not retired at the expiry of their economic life, in which case the DU would need to invest new capital.

b) Longer Asset Lives

Some asset lives have been lengthened, but this change has not resulted in a material impact on the valuation.

APPENDIX A
DWRG – APPENDIX G

		Depreciated Historic Cost	HC Weighted Average Age of Asset Category	Replacement Cost	Optimised Replacement Cost	Optimised Depreciated Replacement Cost	HC Weighted Average Asset Life (Tax Purpose)	ODRC Weighted Average Age of Asset Category	ODRC Weighted Average Asset Life (Regulatory Purpose)
A.	**Distribution Plant**								
A1	Land and Land Rights (Distribution Purpose)	51,071,299	49.65	83,443,300	32,035,300	32,035,300	30.00	18.71	
A2	Structures and Improvements (Distribution Purpose)	11,253,500	3.17	22,555,000	22,555,000	20,522,044	31.94	2.48	32.38
A3	Station Equipment								
A3A	Power transformers	46,464,159	6.96	135,213,120	135,213,120	82,031,024	30.00	13.80	45.00
A3B	Switchgear	68,568,261	5.93	115,227,695	115,227,695	78,810,464	30.00	7.59	30.00
A3C	Protective equipment	37,808,761	6.26	48,206,393	43,261,688	32,805,342	30.00	6.53	30.00
A3D	Metering & control equipment	324,050	10.39	495,794	495,794	324,063	30.00	10.39	30.00
A3E	Communications equipment	2,671,684	2.26	3,240,439	3,240,439	2,671,699	10.00	2.26	15.00
A3F	Other station equipment	3,419,898	3.38	4,535,926	4,535,926	3,926,098	38.57	4.16	44.94
A4	Poles, Towers and Fixtures - Distribution	310,339,011	5.66	868,939,838	868,939,838	547,698,431	29.29	7.83	33.86
A5	Poles, Towers and Fixtures - Customer	0	0	0	0	0	0	0	0
A6	Overhead Conductors and Devices - Distribution	153,745,764	6.43	667,382,382	667,382,382	436,362,910	30.00	10.17	35.00
A7	Overhead Conductors and Devices - Customer	0	0	0	0	0	0	0	0
A8	Underground Conduits - Distribution	0	0	0	0	0	0	0	0
A9	Underground Conduits - Customer	0	0	0	0	0	0	0	0
A10	Underground Conductors and Devices - Distribution	0	0	0	0	0	0	0	0
A11	Underground Conductors and Devices - Customer	0	0	0	0	0	0	0	0
A12	Line Transformers - Distribution	141,846,467	8.09	273,801,971	264,541,417	179,081,379	25.00	8.72	30.00
A13	Line Transformers - Customer	0	0	0	0	0	0	0	0

		Depreciated Historic Cost	HC Weighted Average Age of Asset Category	Replacement Cost	Optimised Replacement Cost	Optimised Depreciated Replacement Cost	HC Weighted Average Asset Life (Tax Purpose)	ODRC Weighted Average Age of Asset Category	ODRC Weighted Average Asset Life (Regulatory Purpose)
A14	Power Conditioning Equipment	1,378,033	12.47	3,131,997	3,131,997	2,005,872	30.00	12.28	35.00
A15	Services	20,051,652	8.17	69,221,565	69,221,565	46,933,934	30.00	8.43	30.00
A16	Meters, Instruments & Metering Transformers-distribution	159,265,347	6.68	555,340,466	388,554,174	249,958,953	25.00	7.94	25.00
A17	Meters, Instruments & Metering Transformers - customer	0	0	0	0	0	0	0	0
A18	Information technology equipment (distribution)	0	0	0	0	0	0	0	0
A19	Regulated Entity Property on Consumers' Premises	0	0	0	0	0	0	0	0
A20	Street Lights and Signal Systems	292,184	13.39	6,802,949	6,802,949	2,139,307	30.00	19.32	30.00
A21	Submarine Cables	0	0	0	0	0	0	0	0
	General Plant								
B1	Land and Land Rights (non-network)	31,085,695	11.57	198,784,900	94,941,000	94,941,000	30.00	15.19	0
B2	Structures and Improvements (non-network)	19,598,693	2.30	96,600,000	44,609,000	24,528,914	6.07	0.00	0.00
B3	Office Furniture and Equipment	32,399,400	2.13	42,883,900	42,883,900	25,991,903	10.00	2.11	10.00
B4	Transportation Equipment	12,507,680	3.75	30,238,800	30,238,800	9,239,566	8.11	2.92	8.05
B5	Stores Equipment	0	0	0	0	0	0	0	0
B6	Tools, Shop and Garage Equipment	17,883,803	7.29	36,606,350	36,606,350	18,996,640	20.00	7.76	20.00
B7	Laboratory Equipment	11,910,284	7.35	25,769,600	25,769,600	13,968,166	15.00	7.62	20.00
B8	Information systems equipment (non-network)	12,388,979	1.41	24,675,760	24,675,760	12,389,014	5.00	1.41	5.00
B9	Power-operated Equipment	0	0	0	0	0	0	0	0
B10	Communication Plant and Equipment	15,264,811	1.60	21,306,100	21,306,100	14,784,041	10.00	1.50	10.00
B11	Miscellaneous Equipment	2,997,619	1.08	3,952,700	3,952,700	2,880,371	15.00	1.17	10.00

		Depreciated Historic Cost	HC Weighted Average Age of Asset Category	Replacement Cost	Optimised Replacement Cost	Optimised Depreciated Replacement Cost	HC Weighted Average Asset Life (Tax Purpose)	ODRC Weighted Average Age of Asset Category	ODRC Weighted Average Asset Life (Regulatory Purpose)
C.	Materials and Supplies (including spares)	5,179,213	8.37	10,651,442	10,651,442	5,179,527	15.43	8.37	15.43
D.	Transferred subtransmission assets	0	0	0	0	0	0	0	0
E.	Allocated Overheads Capitalized	0	0	0	0	0	0	0	0
	Totals	**1,169,716,247**		**3,349,008,387**	**2,960,773,937**	**1,940,205,961**			

APPENDIX B
CEPALCO REPLACEMENT COST REPORT

APPENDIX C
CEPALCO OPTIMISATION REPORT