

PROPOSED ASSET VALUATION GUIDELINES**OBJECTIVE/S**

The purpose of these Guidelines is to establish the process for the valuation of PSALM/NPC's property, plant and equipment/generation assets for regulatory pricing purposes. These Guidelines is designed to achieve a consistent and transparent approach to generation asset valuation based on generally accepted valuation principles.

I. ASSET VALUATION METHOD

A well-defined asset valuation methodology is required in order that the regulatory objectives of transparency and consistency are achieved. The aim of the process is to adopt a regulatory process which provides a fair return to generation owners, and creates incentives for managers to pursue ongoing efficiency gains through cost reductions.

Regulators permit generation companies to earn a reasonable (risk adjusted) return on their investment capital, provided that the market continues to value the services produced with that capital. It is therefore necessary to assess the value of the assets so that an appropriate return on assets can be calculated.

II. VALUATION METHODOLOGY

For most standard asset valuations, the International Valuation Standards as published by the International Valuation Standards Committee (IVSC) outlines a number of approaches.

The three most commonly used approaches are:

- i) the market comparison approach
- ii) the income approach (or cash flow approach)
- iii) the (optimised) depreciated replacement cost or ODRC approach.

The market comparison approach seeks to determine the current value of an asset by reference to recent comparable transactions involving the sale of similar assets. Where it is not possible to determine values for assets using a market comparison approach the valuer/appraiser seeks to replicate the thought processes of an informed potential purchaser acting without compulsion in assessing the market value of the assets (the income approach).

The ODRC is a valuation approach used to assess the value of assets where:

- The base value of assets can be based on historical asset costs, indexed replacement costs or on a modern equivalent asset base (MEA); and

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- An optimization component is introduced to ensure that assets are constructed in the most efficient manner possible while maintaining required service standards.

III. OPTIMISED DEPRECIATED REPLACEMENT COST (ODRC)

The ODRC approach involves the following steps:

1. Establishing the Gross Current Replacement Cost (GCRC) of the gross service potential embodied in the existing assets.
2. Adjusting the gross current replacement cost determined above for over-design, over-capacity and redundant assets.
3. Depreciating this value to reflect the anticipated effective working life of the asset from new, the age of the asset and the estimated residual value at the end of the asset's working life.

IV. GROSS CURRENT REPLACEMENT COST

The Gross Current Replacement Cost (GCRC) is appropriate for assets where there has been little technological change and most, if not all, direct costs that have been incurred and capitalised in respect of those assets would have to be incurred if they were replaced. This method has the feature that the valuation is directly linked to the historical value of the relevant assets, thereby ensuring that all relevant costs are included in the valuation.

Defining and Identifying Generation Assets

The first step in determining the valuation of generation assets is to determine the quantities and types of the assets.

Minimum Data Requirement

To conduct an accurate and valid valuation, the following are the minimum data requirements:

- Asset register database. There may be more than one database to cover different asset types. There should be verifiable processes used to populate and keep the database up to date.
- The asset register database should contain as a minimum the asset categories outlined in this Guideline and sufficient attributes and other data available to value and assign residual lives.
- The minimum attributes classification of assets necessary for valuations are material types, sizes, quantities, year constructed/refurbished and condition.

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- External attributes impacting on construction and asset performance should also be recorded. They are typically ground type, development density, failure histories and operating environment.

Data Verification

To ensure the information available in the database is accurate and complete, records should be verified by sampling.

The key components of the verification process should include:

- Verification of asset records for location and length.
- Completeness of records in relation to timing of assets being added or removed.
- Assessment of construction date and capitalized rehabilitation.

The number of samples is usually selected so as to provide analysis results with 95% confidence. The significance of items should also be considered in terms of its effect on accuracy and materiality of the overall valuation.

Estimating GCRC

Various alternative methods are available in determining Replacement Cost New (RCN). RCN means the replacement cost of assets of equal capacity based on current technology and techniques.

Indexing Method

The Indexing Method involves determination of the original cost of the items being priced, and applying factors based on price and currency level changes to provide the estimate of replacement cost. However, trending has drawbacks in that the item original installed may no longer be available, technology improvements are not taken into account, and indexing factors may be difficult to obtain. Although, in many cases, absent accurate asset quantities and descriptions, trending is a practical alternative.

Trending Procedures

The following process is conducted in trending:

1. Adjustment of the valuation Replacement Cost New values, by trending;
2. Recalculation of the Sound Values using the trended RCN's, and depreciation rates; and

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3. Inclusion of capital acquisitions (and removal of assets retired) from the valuation asset register.

Determination of Foreign and Local Indices

Foreign and local indices are determined based on the following:

Country of Origin	Data Source
Japan	Bloomberg
USA	Bloomberg
Germany	Bloomberg
France	Bloomberg
Philippines	National Census and Statistics Office website

Trending Factor - Local Component

Trending factors are developed utilizing Inflation Rate for the Philippines, as shown in the table below:

Local Inflation Rate:		
1999	5.9	1.059
2000	4.0	1.040
2001	6.8	1.068
2002	3.0	1.030
2003	3.5	1.035
2004	6.0	1.060
2005	7.6	1.076
2006	6.2	1.062
2007	2.8	1.028
Average	1.5614	

The factor used to index Philippine Costs from the year internal trending was allowed by the Commission on Audit to be booked (CY 1998) to the current level is derived by multiplying each year's inflation rate plus 1, starting from CY 1999 to CY 2007. For example, to escalate 1998 costs to the 2007 level, the 1998 costs are multiplied by the factor 1.5614, the average or factor derived as follows:

$$1.059 \times 1.04 \times 1.068 \times 1.03 \times 1.035 \times 1.06 \times 1.076 \times 1.062 \times 1.028 = 1.5614.$$

Trending Factor - Foreign component

The foreign cost component of the Fixed Asset Register is trended utilizing composite indices based on exchange rates and price level indices from the United States (22% weighting), Japan (44% weighting), Germany (22% weighting), and France (12% weighting). The assigned weights are based on the recommendation made by RMI in the 1996 asset valuation study. It found it to be

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“reasonable for use in internal interim revaluations, prior to the next complete (external) revaluation.”

The exchange rate component is necessary to recognize the exchange rate movements between the foreign countries and the Philippine Peso. The price level component is necessary to reflect the fluctuation in price levels within the country of origin.

To determine the price level component, appropriate price indices for the years are obtained for each of the foreign countries chosen to develop composite foreign factors. Likewise, the currency exchange rates for each of the foreign countries chosen for the development of the composite foreign factors are obtained. Below is a matrix of calculations showing the development of the Foreign Trend Factor:

COMPUTATION OF FOREIGN TREND FACTOR

		JAPAN	USA	GERMANY	FRANCE
Weight	W	44%	22%	22%	12%
CPI at 1998		103.3800	163.0080	90.8000	88.3400
CPI at 2007		100.3000	207.3450	103.9000	103.5500
Consumer Price Index (CPI)^a	C	0.9702	1.2720	1.1443	1.1722
Exchange Rate at 1998		0.3122	40.8660	24.6701	6.9310
Exchange Rate at 2007		0.3900	45.8750	32.3109	9.6342
Exchange Rate Index (ERI)^b	E	1.2493	1.1226	1.3097	1.3900
Foreign Index (W*C*E)		0.5333	0.3141	0.3297	0.1955
TOTAL				1.3726	

a/ $CPI = \frac{\text{Current Year CPI}}{\text{Beginning Year CPI}}$
 SOURCE: Bloomberg

Year	US\$/DM	US\$/FF
1998	1.6565	5.89610
2007	1.4198	4.7617

b/ $ERI = \frac{\text{Current Year Closing FOREX}}{\text{Beginning Year Closing FOREX}}$
 SOURCE: Bloomberg

V. OPTIMISED REPLACEMENT COST ADJUSTMENTS

Because the ODRC of the generation company assets is based on determining the value of the service potential embodied in the assets, it is necessary to adjust the gross replacement cost of the existing assets for overdesign, overcapacity and redundant assets.

The Independent Pricing & Regulatory Tribunal of New South Wales, Australia (IPART) states that “an optimised system is a reconfigured system using modern technology designed to serve the current load with current technology, with

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some allowances for growth. This method excludes any unused or under utilized assets and allows for potential cost savings that may have resulted from technological improvement."

VI.DETERMINING THE ODRC OF ASSETS

Establishment of Effective Lives

The effective working life of an asset is its estimated life, assuming continued use in its present function as part of a continuing business. It is considered to be at an end when profitability is exceeded by operating and maintenance costs.

The standard and frequency of maintenance is a significant factor in the determination of effective lives. All other things being equal, a regularly and well- maintained asset will have a longer effective life than an identical asset, which is subjected to poor and infrequent maintenance.

Below is a listing of generation assets and their corresponding estimated useful lives used to calculate depreciation and determine the net value of the asset or its Optimized Depreciated Replacement Cost (ODRC):

	Description
100 - STEAM PRODUCTION PLANT (Geothermal, Thermal, Coal)	
310	Land and Land Rights
311	Structures and Improvements
312	Boiler Plant Equipment
313	Engines and Engine Driven Generators
314	Turbogenerator Units
315	Accessory Electric Equipment
316	Miscellaneous Power Plant Equipment
317	Steam Wells and Facilities
200 - HYDRAULIC PRODUCTION PLANT	
330	Land and Land Rights
331	Structures and Improvements
332	Reservoirs, Dams and Waterways
333	Waterwheels, Turbines and Generators
334	Accessory Electric Equipment
335	Miscellaneous Power Plant Equipment
336	Roads, Railroads and Bridges
300 - OTHER PRODUCTION PLANT (Diesel, Nat. Gas, etc.)	
340	Land and Land Rights
341	Structures and Improvements

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- 342 Fuel Holders, Producers and Accessories
- 343 Prime Movers
- 344 Generators
- 345 Accessory Electric Equipment
- 346 Miscellaneous Power Plant Equipment

400 - TRANSMISSION PLANT

- 350 Land and Land Rights
- 351 Clearing Lands and Rights of Way
- 352 Structures and Improvements
- 353 Station Equipment
- 354 Towers and Fixtures
- 355 Poles and Fixtures
- 356 Overhead Conductors and Devices
- 357 Underground Conduit
- 358 Underground Conductors and Devices
- 359 Roads and Trails

500 - DISTRIBUTION PLANT

- 360 Land and Land Rights
- 361 Structures and Improvements
- 362 Station Equipment
- 363 Storage Battery Equipment
- 364 Poles, Towers and Fixtures
- 365 Overhead Conductors and Devices
- 366 Underground Conduit
- 367 Underground Conductors and Devices
- 368 Line Transformers
- 369 Services
- 370 Meters
- 371 Installations on Customers' Premises
- 372 Leased Property on Customers' Premises
- 373 Street Lighting and Signal Systems

501 - LOAD DISPATCH & EQUIPT. & ACCESSORIES

- 375 Data Acquisition and Remote Control/Frequency Control Subsystem Equipment
- 376 Process Computer and Man-Machine Interface Subsystem Equipment
- 377 Microwave and UHF System Equipment
- 378 Telephone System Equipment
- 379 Telex/Facsimile System Equipment
- 380 Flood Forecasting and Warning System Equipment for Dam Operation System
- 381 Electrical Auxiliaries
- 382 Mechanical Auxiliaries

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383 Civil Structures and Facilities

ECONOMIC LIFE

a. Thermal Production	35
1. Oil-Fired	
2. Coal-fired	
b. Hydraulic Production	40
c. Geothermal Production	30
d. Other Production	20
1. Combined-cycle	
2. Diesel Plant and Barges	
3. Gas Turbine	

BOARD RESOLUTION NO. 03 - 39

WHEREAS, Section 49 of Republic Act No. 9136, otherwise known as the "Electric Power Industry Reform Act of 2001" or EPIRA created the Power Sector Assets and Liabilities Management Corporation (PSALM Corp.) to take ownership of all existing NPC generation assets, liabilities, IPP contracts, real estate and all other disposable assets;

WHEREAS, Section 51 (g) of R.A. No. 9136 further provides that PSALM Corp. shall have the power to sue and be sued in its name;

WHEREAS, as an incident to PSALM Corp.'s corporate existence, there is a necessity to file or defend cases, whether civil, criminal or administrative;

WHEREAS, the statutory counsel of PSALM Corp. is the Government Corporate Counsel pursuant to Section 10, Chapter 3, Title III of the Revised Administrative Code of 1987;

WHEREAS, PSALM Corp. has its own Legal Department headed by the General Counsel;

WHEREAS, OGCC Circular No. 1, series of 2002, otherwise known as the "Guidelines in Referral of Cases" issued on July 9, 2002, a copy of which is attached herewith as Annex "A", delineates the cases to be referred to the OGCC and those to be handled by PSALM Corp.'s Legal Department;

WHEREAS, the various Rules of Procedure require that if a party is a corporation like PSALM Corp., its Board of Directors must authorize its President, General Counsel or any similar officer to institute actions on behalf of the corporation and verify pleadings required by law to be verified;

THEREFORE, BE IT RESOLVED, AS IT IS HEREBY RESOLVED that the President and Chief Executive Officer of PSALM Corp. or, in his absence, the Officer-in-Charge be authorized to cause the preparation of and the signing of initiatory pleadings and verify pleadings that are required by law to be verified.

RESOLVED FURTHER, that the General Counsel be authorized to execute Special Powers of Attorney (SPAs) in favor of the lawyers of the Office of the Government Corporate Counsel and of PSALM Corp. to represent PSALM Corp. in the pre-trial conferences pursuant to Section 4 of Rule 18 of the Rules of Court or in any stage of the proceeding where the court, tribunal or commission may require such written authorization.

CERTIFIED TRUE COPY:



MARIA LUZ L. CAMINERO
Corporate Secretary

APPROVED AND CONFIRMED
THRU REFERENDUM, September 25, 2003.

DIRECTORS:


JOSE ISIDRO N. CAMACHO
Secretary, Department of Finance



VINCENT S. PEREZ, JR.
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