

ADB TA 6123-REG  
PILOT AND DEMONSTRATION ACTIVITY

Promoting Effective Water Management  
Policies and Practices- Phase 3

RATIONALIZING TARIFFS  
FOR PRIVATE WATER UTILITIES  
UNDER THE  
NATIONAL WATER RESOURCES BOARD

FINAL REPORT

Volume I  
MAIN REPORT

MARCH 2005

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Submitted by  
IDP Consult, Inc.

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## ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AWC	Annual Water Charge
BP	Batas Pambansa
CDA	Cooperative Development Authority
COA	Commission on Audit
CPC	Certificate of Public Convenience
CPCN	Certificate of Public Convenience and Necessity
CPI	Consumer Price Index
Cu. M.	Cubic Meters
DBM	Department of Budget and Management
DBP	Development Bank of the Philippines
DCF	Discounted Cash Flow
DENR	Department of Environment and Natural Resources
DILG	Department of the Interior and Local Government
DORC	Depreciated Optimized Replacement Costs
DPWH	Department of Public Works and Highways
ED	Executive Director
EO	Executive Order
ERC	Energy Regulating Commission
ERD	Economics and Research Department
ESA	External Support Agencies
GOCCs	Government-Owned and Controlled Corporations
has.	Hectares
HLURB	Housing and Land Use Regulatory Board
HOA	Homeowners' Association
IDP	IDP Consult, Inc.
IRR	Implementing Rules and Regulations
KPI	Key Performance Indicators
Kwh	Kilowatt Hours
LGU	Local Government Unit
LoS	Levels of Service
lps	Liters Per Second
LWUA	Local Water Utilities Administration
MOA	Memorandum of Agreement
MWSS	Metropolitan Waterworks and Sewerage System
MWSS-RO	Metropolitan Waterworks and Sewerage System – Regulatory Office
NCR	National Capital Region
NEDA	National Economic and Development Authority
NGO	Non-Governmental Organization
NHA	National Housing Authority
NIA	National Irrigation Administration
NRW	Non-Revenue Water
NWRB	National Water Resources Board
NWRC	National Water Resources Council
O&M	Operations and Maintenance
OIC	Officer In-Charge
OPEX	Operating Expenses
PCA	Power Cost Adjustment
PD	Presidential Decree
PDA	Pilot Demonstration and Activity
PMO	Postal Money Order

ROI	Return on Investment
RoR	Rate of Return
RORB	Rate of Return Base
RR	Revenue Requirements
RWDC	Rural Water Development Corporation
RWSA	Rural Water and Sanitation Association
SEC	Securities and Exchange Commission
SRF	Supervision and Regulation Fee
TA	Technical Assistance
TNA	Training Needs Analysis
TOR	Terms of Reference
TWG	Technical Working Group
UK	United Kingdom
WACC	Weighted Average Cost of Capital
WD	Water District
WPEP	Water Supply and Sanitation Performance Enhancement Project
WS	Water Supply
WUD	Water Utilities Division
yr	Year
YTD	Year To Date

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## EXECUTIVE SUMMARY

1. In 2002-2003, a technical assistance project was funded by the ADB (ADB TA: 3703- PHI) to support regulatory capacity building for the institutions with water regulatory responsibilities in the Philippines. The project focus was on developing regulatory guidelines and on implementing a comprehensive training course on “Fundamental Workshop on Economic Regulation for Water Utilities”. It was an opportunity also for the project team to be in touch with the major water regulatory players. During this period it was noted that the National Water Resources Board (NWRB) is the only national regulatory body created by law specifically for water resource and economic regulation. The NWRB approached the ADB for assistance in economic regulation, particularly in tariff setting for private water utilities under its jurisdiction.
2. In September 2, 2004, IDP Consult, Inc. entered into a contract agreement with the Asian Development Bank (ADB) to undertake a study for a period of 6 months on the Pilot and Demonstration Activities (PDA): Rationalizing Tariffs for Private Water Utilities under the National Water Resources Board or NWRB (ADB RETA 6123: Promoting Effective Management Policies and Practices – Phase 3).
3. The major PDA objectives are: (i) to review and identify issues relating to the current regulatory arrangement particularly the tariff setting and supervision and monitoring, (ii) to identify ways to improve the NWRB rate setting methodology and prepare guidelines on tariff setting consistent with levels of service, affordability and other economic regulatory principles; and (iii) to introduce institutional reforms in order to strengthen the capacity of NWRB as the economic regulator in the water sector.
4. This Final Report comes in three volumes.

Volume I: Main Report

Volume II: Revised Guidelines on Tariff Setting and Regulation

Volume III: Training / Workshop Materials

Volume II presents the guidelines or fundamentals of the rate making process that NWRB or the water utility may use as a guide in establishing the basis on which rates are founded, in calculating the rates and the guidelines for tariff regulation. It also contains guidelines on the use of the Annual Report required to be submitted by CPC grantees to NWRB. Volume III is a compilation of the materials and handouts as used in the ten workshops.

5. NWRB's accomplishments from 2000 – 2003 show a decline in water permits approved, water use conflicts decided, monitoring of utility operations and operation of non-permittees. In addition, the average time to process a tariff proposal ranges from 6 to 24 months. This situation is largely attributable to lack of personnel, lack of operational budget and late submission of data from the applicant.
6. Generally, NWRB uses the ROI methodology in its tariff calculations. However for subdivisions with occupancy at less than 70%, it applies the Break-even Methodology which is similar to the ROI, except that the revenue requirements do not include any net income or ROI.



7. The methodology, structure and process were evaluated, and the major findings are as follows: (i) tariffs are not related to service levels, (ii) tariffs are based only on one test year (iii) there is a lack or absence of an asset management plan, (iv) there is no mechanism for disallowances of excess income or provisions for upward or downward adjustments, and (v) there is a lack of financial monitoring. Refer to Table 7 for the summary of tariff problems and proposals.
8. The main features of the revised tariff methodology and process evolved after the first two consultation workshops and several technical working group sessions with NWRB. These include (i) a five year tariff study period, requiring tariff proposals to incorporate a 5-year business plan and service levels, ii) compulsory tariff reviews to determine disallowances or need for upward adjustment based on the Cost of Service approach to tariff regulation, and iii) tariff reviews as one of the bases for extension of CPC validity.<sup>1</sup>
9. With the change to a five year period, two tariff methodology options were explored. These were i) the 5-year ROI method and ii) the Discounted Cash Flow method (DCF) which uses the “cash flow approach” and discounting to consider the time value of money. Discussions with NWRB, the five pilot areas and other service providers in the third and fourth consultative workshops reveal concerns that the change to cash flow approach and the complexity of the discounted cash flow concept would make explanation of the methodology to their consumers difficult. Because of this as well as other disadvantages of the DCF method, it was proposed that the 5-year ROI method instead, be adopted as NWRB’s standard methodology. At an NWRB Board meeting, held on 14 January 2005, the Board unanimously approved the new 5-year ROI methodology after presentation by NWRB management and the consultant.
10. The existing rate design methodology does not give emphasis on the affordability of the lifeline consumption by a low income household. This affordability has been reinforced in the revised methodology. Under the existing methodology the proposed tariff does not assure that the maximum allowed revenue requirement is not exceeded. This has been corrected through the adoption of the quantity block method. An incremental factor is also introduced that gives a handle on the interval of water rates between quantity blocks.
11. Pilot tariff studies done for five pilot areas (subdivision, homeowners association, resettlement area, water cooperative and a private operator) show that the 5-year ROI methodology could be applied regardless of the type of service provider. The DCF method may be considered for use at a later stage by the water districts under the Local Water Utilities Administration (LWUA). The districts have been using the cash flow method and the use of discounting will not be very difficult for them. By then it will be easy for NWRB to apply the DCF method because the tariff model uses the same data format to produce tariffs under both methods.
12. Volume II of this report incorporates the Guidelines on Tariff Setting and Regulation. Once the Guidelines have been approved, this will be a ready reference for both the NWRB staff and the service providers in the preparation and review of water tariffs. Guidelines have been prepared on service levels, revenue requirements, water supply planning, capital expenditures, operating expenses, assets entitled to return; rate design, tariff regulation, and annual reports.

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<sup>1</sup> A new Board Resolution in November 2004 makes the CPC valid for 5 years only.

13. As required by the Terms of Reference, workshops have to be conducted by the consultant to familiarize the NWRB with the new tariff methodology and enhance their capability in economic regulation. Ten workshops were proposed after consultation with NWRB, and as of February 22, 2005, all of the these workshops have already been conducted, to wit:

Workshop	Dates Conducted	
	January	February
1. Leadership and Strategic Planning	13-14	
2. Economic Regulation	17	
3. Technical Workshop II	18	
4. Technical Workshop I	20	
5. Tariff Regulation Workshop I	24	
6. Rationalizing Field Investigation	31	
7. Tariff Regulation Workshop II		10-11 (A.M.)
8. Financial Regulation I		11 (P.M.)
9. Planning Work Flow		17
10. Financial Regulation II		22

Training materials have been developed for each of the above workshops and these are presented in Volume III. NWRB staff could echo the training sessions as needed using these materials.

14. Aside from the change in the tariff methodology, this Pilot Demonstration and Activity proposes the following to address the problems that have been identified in addition to the measures that are already currently being undertaken by the NWRB management:
- a. To shorten the tariff review processing time, NWRB should implement the CPC/rate review process which has been developed by its staff with assistance from the consultant, in the Planning Work Flow Workshop. In addition, NWRB should accredit several NGOs, or auditing, accounting or management firms as economic agents which could provide tariff formulation or review services to NWRB's clients, particularly in the Visayas and Mindanao areas. The use of economic agents will decrease the workload of NWRB and at the same time assure its clients of proposed rates which will meet the generally accepted tariff goals.
  - b. NWRB should require all grantees to submit reports which contain information on the key performance indicators (KPIs) covering (i) marketing efforts, (ii) profitability, (iii) cost efficiency, (iv) financial liquidity, (v) production efficiency and personnel management. NWRB should monitor that the desired KPI levels are met.
  - c. NWRB should strive to expand its present 327 client base which as of September 2004 shows a potential of around 1,800 private utilities. An increased revenue base vis-à-vis collection and remittance to the National Treasury should also improve its chances of being able to negotiate for a bigger budget.
  - d. Appropriate action should be initiated to strengthen the NWRB's enforcement of compliance with its rules as follows:
    - Issuance of a set of rules and regulation to implement fines, injunctions, criminal prosecution provided for by law and specifying the circumstances under which a particular toll is to be utilized to enforce its orders, decisions or resolutions

- Review of the penalties and fines for purposes of determining their efficiency as a deterrent to commission of prohibited acts or omissions
  - Incorporation in the CPC of certain conditions (audit, service level, reporting requirements, etc.) prior to issuance of the certificate
  - Renaming of NWRB into National Water Regulatory Board
15. To preserve the gains obtained in this project the following recommendations are being made:
- a. NWRB should pursue vigorously its request for organizational restructuring or expansion with DBM or through an Executive Order issued by the President herself.
  - b. NWRB should seek additional assistance from external support agencies (ESA) in setting up the initial systems involved in tariff review and regulation, additional formal workshops in the implementation of the guidelines, and in accrediting and training economic deputies.
16. These are the lessons learned from the project:
- a. Involvement of the various stakeholders, i.e., CPC grantees and other national bodies in problem-solving, was an eye opener for NWRB top officials. During the various workshops/consultations held during this project, NWRB and the consultants had an easier time developing solutions as some of them came from the clients themselves. This enabled NWRB to increase its client base (as in its dialogue with CDA and the Cooperatives). It was also during these forums that these CPC grantees came to learn of NWRB's constraints and led to better appreciation of NWRB's efforts.
  - b. A regulatory body which has weak enforcement of its rules, orders or decisions will, in the long run, be largely ignored by those it seeks to regulate. Those following its rules find themselves to be in the minority, hence feel "persecuted" since the vast majority which do not comply with the laws are not penalized. The same observation can be said for an agency with limited staff and financial resources and does not have its presence felt at the regional levels. It will be perceived to be an agency which does not have government support. In the end, it will not be able to recruit or even retain capable staff which will aggravate further its weak enforcement capabilities.

# 1 Background

## 1.1 Project Rationale

In 2002-2003, a technical assistance project was funded by the ADB (ADB TA: 3703- PHI) to support regulatory capacity building for the institutions with water regulatory responsibilities in the Philippines. The project focus was on developing regulatory guidelines and on implementing a comprehensive training course on “Fundamental Workshop on Economic Regulation for Water Utilities”. It was an opportunity also for the project team to be in touch with the major water regulatory players. During this period it was noted that the National Water Resources Board (NWRB) is the only national regulatory body created by law specifically for water resource and economic regulation. The NWRB approached the ADB for assistance in economic regulation, particularly in tariff setting for private water utilities under its jurisdiction.

## 1.2 The Contract

On September 2, 2004, IDP Consult, Inc. entered into a contract agreement with the Asian Development Bank (ADB) to provide consulting services for the Pilot and Demonstration Activities (PDA): Rationalizing Tariffs for Private Water Utilities under the National Water Resources Board (NWRB). This project is referred to in ADB as RETA 6123: Promoting Effective Management Policies and Practices – Phase 3 (financed by the Cooperation Fund for the Water Sector).

The study team was mobilized to commence with the project on September 2, 2004. The project will be implemented over a six-month period as fixed by the Contract Agreement and will be completed by February 28, 2005.

## 1.3 Project Objectives

As discussed in the Project’s Terms of Reference (TOR), the general aim of the project is to improve the delivery of water supply service particularly to poor communities and to enhance economic governance consistent with ADB’s country strategy. Specific objectives are:

1. To review and identify issues relating to the current regulatory arrangement particularly the tariff setting and supervision and monitoring by the NWRB of subdivision water operators and gauge their effectiveness/performance against economic regulatory principles and practices;
2. To identify ways to improve the NWRB rate setting methodology and prepare guidelines on tariff setting consistent with levels of service, affordability and other economic regulatory principles;
3. To identify ways to enhance governance through transparency/ accountability in the performance monitoring system for subdivision water operators;
4. To encourage stakeholder participation in problem analysis and formulation of recommendations through workshops/consultations to ensure acceptability of the recommendations and promote advocacy of regulatory mechanisms;
5. To introduce institutional reforms in order to strengthen the capacity of NWRB as the economic regulator in the water sector with the aim of preparing them

to better handle their regulatory function in the sector. This will allow NWRB and its staff to align itself with the practices of other regulatory agencies and prepare itself for other bigger regulatory responsibilities particularly in the area of protecting customers (with special emphasis on low income households); and

6. To assess various institutional options (including the use of private service providers), determine preferred options and develop appropriate proposals for implementable arrangements considering NWRB's organizational and resource constraints.

## **1.4 Project Scope**

Consistent with the project objectives, the project scope covers the following aspects of tariff regulation:

1. Legal – consists of a review of legal issues and determination of legal implications of proposed changes including a review of the penalties and rewards systems and proposals to make these systems more effective.
2. Institutional/Training – covers examination of existing institutional arrangements within NWRB and with the consumers and operators of private water utilities and subdivisions covered by the agency, and development of institutional proposals to improve tariff review and financial monitoring systems. This includes organization, staffing, and training. This workstream also includes a public dissemination plan through newspaper ads and distribution of primers.
3. Tariff Review and Design – includes a review of current practices, development of methodology/guidelines considering applicable international best practices on tariff setting, and pilot implementation of the methodology using at least five actual cases, 3 from Metro Manila (including nearby provinces of Laguna and Rizal) and 2 from outside Metro Manila (two pilot areas in Cebu). Selection of the specific areas for the pilot study was based on which areas have the larger number of Certificate of Public Convenience (CPC) grantees.
4. Financial Management / System – comprises evaluation of the current functions and accomplishments of the NWRB staff in performance monitoring and development of performance monitoring systems to enhance NWRB's role as economic regulator. This includes preparation of guidelines for performance monitoring and benchmarking including establishment of key performance indicators (KPIs) and the design of benchmarking model.

## **1.5 Project Deliverables**

The major project deliverables and their status are shown in Table 1.

This Final Report comes in three volumes.

Volume I	Main Report
Volume II	Guidelines on Tariff Setting and Regulation
Volume III	Workshop/Training Materials

**Table 1 Status of Deliverables**

<b>Deliverable</b>	<b>Due Date</b>	<b>Status</b>
a. Stakeholders Workshops (2 in Manila, 2 in Cebu)	Sept – Dec, 2004	Done
b. Inception Report	Oct. 30, 2004	Submitted Oct. 26, 2004
c. Training Program Proposal	Nov, 30, 2004	Submitted to NWRB, Nov. 23, 2004
d. Midterm Report	Dec. 15, 2004	Submitted Dec. 15, 2004
e. Draft Guidelines	Dec. 31, 2004	Submitted to NWRB, Dec. 20, 2004 Submitted to ADB, Dec. 28, 2004
f. Final Guidelines	Feb. 25, 2005	Submitted Feb. 18, 2005
g. Training/Workshops	Jan. – Feb. 2005	Done as of Feb. 22, 2005
h. Final Report	Feb. 25, 2005	Draft Final submitted Feb. 21, 2005

## **1.6 Project Constraints/Limitations**

Although Executive Order (EO) No. 123 dated September 2002 was issued transferring the tariff review of water districts from the Local Water Utilities Administration (LWUA) to NWRB, this project does not cover the water districts for the following reasons:

1. Water districts are not classified as “private” water utilities. They are officially classified as a government owned and controlled corporation (GOCC).
2. At present, the review of WD tariffs has not been operationalized by NWRB due to manpower and other resource constraints. There is an understanding between the LWUA and NWRB to continue the status quo (prior to EO 123) until such time that the NWRB can handle this workload.

## **2 The National Water Resources Board (NWRB)**

### **2.1 History and Legal Basis**

1. The present NWRB traces its history to Presidential Decree (PD) No. 424 (March 28, 1974) which created the National Water Resources Council (NWRC) as a permanent high level ex-officio body attached to then Department of Public Works Transportation and Communication. It was tasked to coordinate and integrate all activities related to water resource development and management with the heads of six (6) agencies as members of NWRC.
2. On December 31, 1976, the Water Code (PD No. 1067) was promulgated which updates and consolidates into one legislation, basic laws and administrative systems governing ownership, appropriation, utilization, exploitation, development, conservation and protection of the country’s water resources. The NWRC was tasked to implement the Water Code.
3. In July 23, 1979, Executive Order (EO) No. 546 transferred the hydrologic survey and data collection functions of the defunct Bureau of Public Works to the NWRC.
4. As an economic regulator, the powers and functions of the NWRB can be traced back to the Public Service Commission which was created under Commonwealth Act 146, as amended (Nov 7 1936). In 1972, the Integrated Reorganization Plan abolished the Public Service Commission and its adjudicatory and regulatory functions over water supply services were transferred to a created Board of Power and Waterworks. In October 6, 1977, the promulgation of Presidential Decree (PD) 1206 transferred the powers and functions of the Board of Power and Waterworks relating to economic regulation over waterworks to the NWRC.

5. In July 22, 1987, the NWRC was renamed and reorganized as the National Water Resources Board (NWRB) pursuant to Executive Order No. 124-A.
6. On Sept 12, 2002, Executive Order (EO) No. 123 was issued changing the composition of NWRB's board members and transferring the Chairmanship of the Board from Department of Public Works & Highways (DPWH) to the Department of Environment and Natural Resources (DENR).
7. Republic Act No. 9275 (Clean Water Act) was promulgated on March 22, 2004 vesting in NWRB the responsibilities of designating with DENR water quality management areas and taking measures to upgrade quality of such water in non-attainment areas.

## **2.2 Mandate**

The NWRB performs two (2) regulatory functions, i.e. a) water resource regulation and b) economic regulation of water services. A third function involves policy and program coordination of water resource development plans and projects. NWRB's powers and responsibilities under the two regulatory functions are as follows:

### **2.2.1 Water Resource Regulation**

1. To improve and rationalize management of water resources <sup>2</sup>;
2. To regulate and control utilization, exploitation, development, conservation and protection of all water resources<sup>2</sup>; and
3. Review and amend Implementing Rules and Regulations (IRR) of the Water Code<sup>3</sup>.

### **2.2.2 Economic Regulation**

1. To adjudicate and grant Certificate of Public Convenience (CPC) or Certificate of Public Convenience and Necessity (CPCN) to the applicant/operator of waterworks utility system and services.<sup>4</sup> A CPC is a formal written authority issued to a qualified applicant upon notice and hearing, authorizing him to operate and maintain a waterworks supply service for which a franchise is not required by law. A CPCN is an authority issued to an applicant for the operation of a public service for which a franchise is required by law;
2. To impose penalties for administrative violations and promulgate rules and regulations relative thereto<sup>4</sup>;
3. To supervise and control all waterworks utilities and their franchise and other properties; regulate and fix water rates to be charged by waterworks operators, except those falling under the jurisdiction of the Metropolitan Water and Sewerage System (MWSS) and Local Water Utilities Administration (LWUA) and Water Districts (WDs) . However, under EO 123, it now becomes NWRB's

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<sup>2</sup> PD 1067 - Water Code

<sup>3</sup> PD 1206 – IRR of the Water Code

<sup>4</sup> Commonwealth Act No 146, as amended

<sup>5</sup> EO 123

responsibility to regulate tariffs of Water Districts except to those where LWUA has financial exposure<sup>5</sup>;

4. To exercise original jurisdiction over all disputes relating to water rates of waterworks utilities except on water rate cases involving MWSS and LWUA (water districts) which are however, appealable to the NWRC under PD 198 as amended; and
5. To impose and collect annual Supervision and Regulation Fees or charges from waterworks system and public utility operators. <sup>2,3</sup>

### 2.3 Organization Structure

The NWRB secretariat is headed by an Executive Director (ED) and a Deputy ED. Under them are 5 operating divisions as shown in Table 2.

As of September 2004, NWRB has a total of 126 plantilla positions consisting of 41 technical, 78 non-technical and 7 key positions. NWRB has no provincial or regional offices. Out of 126 authorized positions, only 110 have actually been filled up.

**Table 2 NWRB Divisional Functions and Manpower Complement**

Division	No. of Sections	Function	Staff Complement	Qualification of Head of Unit
Policy and Program	4	Policy formulation on water resources development and utilization and coordination of water resources plans and programs	24	Engineer
Water Rights	4	Determination, adjudication and granting of water rights	13	Lawyer
Water Utilities	4	Granting of CPCs and approval of tariffs	12	Lawyer
Monitoring and Enforcement	4	Operation monitoring, water meter calibration and enforcement and evaluation	22	Engineer
Administrative and Financial	5	Personnel administration, accounting, treasury, records and general services	31	Accountant

### 2.4 Financial Resources

The NWRB is a regular government agency recently attached to the DENR. Its operations are funded from the National Treasury through the General Appropriations Act which is annually approved by Congress. As a regular agency, all collections by NWRB are remitted to and retained by the National Treasury.



### 3 NWRB Institutional Assessment

#### 3.1 Client Coverage

##### 3.1.1 Types of Clients

The TOR for this project envisaged basically the subdivision developers as the major private utility operators. However a review of CPC grantees showed a diverse range of private utility operators. Table 3 lists the types of organization granted CPCs as of December 2004 by NWRB.

This total of 327 is very small if we consider all types and number of utility operators at present. It is very important that NWRB should be able to cover all those falling under its mandate for two (2) reasons:

1. NWRB will be able to improve its revenue generation if there will be more CPC grantees; and
2. Water service providers who are currently CPC grantees will be convinced that there is equitable application of rules by NWRB. At present, they think it is unfair that by coming forward and registering with NWRB they are the only ones subjected to the rules, fees and penalty charges.

**Table 3 Existing and Potential CPC Grantees**

Type	With CPCs*	Estimated Potential	Remarks
Subdivision	205	500	
Homeowners Association	19		
RWSA	15	750	Need MOA with LWUA
Cooperative	21	156	Need MOA with CDA
Peddler / Ship chandler	46	50	
LGU	4	200	With Level III services only
Private	4	6	
Condominium / Townhouse	4	100	
Eco zones	9	18	
<b>Total</b>	<b>327</b>	<b>1,780</b>	

*As of December 31, 2004*

##### 3.1.2 Subdivision Developers / Homeowners Associations

These are the water utilities still being operated (or contracted out) by the subdivision developers or those whose water facilities are already being operated and maintained by the homeowner's association after being turned over by the developer.

A 1999 partial list of housing subdivisions (5 out of 14 regions without Metro Manila) from the Housing and Land Use Regulatory Board (HLURB) has about 250 subdivisions with their own water supply source. It is estimated that the total number of subdivisions eligible for CPCs could reach 500.

An updated list from the HLURB of subdivisions, townhouses and condominiums for all regions was obtained by the consultants in Feb 2005. The complete list had been turned over to NWRB for their appropriate action.

### 3.1.3 Rural Water & Sanitation Associations (RWSA)

The RWSA is a non-stock and non-profit association whose members are the heads of households of the community which own, operate and maintain a water system. The RWSAs were formerly under the supervision of the Rural Water Development Corporation (RWDC) (formed in 1980 and abolished in 1987) which was mandated to provide water supply services through RWSAs in areas not covered by LWUA or its water districts. When the RWDC was abolished, all its developmental and regulatory functions over RWSAs were transferred to LWUA. However LWUA continued its focus on the water districts rather than on its RWSAs with the end result that RWSAs could not avail of development or regulatory assistance from it.

RWSAs are, legally speaking, still required to register with LWUA since there are no new laws stating otherwise. However RWSAs have been found to be registered with agencies other than LWUA such as the Securities and Exchange Commission, Department of Labor and NWRB.

LWUA has a master list of about 500 operating RWSAs. It is possible that there are about 750 RWSAs operating all over the country since many were also formed by DPWH, DILG and LGUs as a requirement prior to implementation of external support agencies (ESA) rural programs during the 90's without the necessity of registration with LWUA. There is no master list of all RWSAs that can be accessed from any single government agency

NWRB has so far granted only 15 CPCs to RWSAs.

### 3.1.4 Water Cooperatives

A cooperative is defined as a duly registered association of persons with a common bond of interest who have voluntarily joined together to achieve a lawful common social or economic end. The members provide equitable contributions to the capital required and accept a fair share of the risks and benefits of the undertaking in accordance with universally accepted cooperative principles. Cooperatives are assisted by the Cooperative Development Authority (CDA) whose functions include formation, institutional development and monitoring of these cooperatives.

A meeting was held with officials of the CDA in December 2004 paving the way for all 156 water cooperatives to be under the regulatory umbrella also of the NWRB. Currently, only 21 of the 156 water cooperatives have CPC's.

As a result of the December meeting between CDA and NWRB, two Water Cooperative Fora were held on January 25, 2005 (Manila) and January 28, 2005 (Cebu) jointly conducted by CDA and NWRB. Some 90 water cooperatives attended the fora. Topics covered included problems besetting the cooperatives and how NWRB can assist them in tariff design and political stability. NWRB's assistance was warmly received and an initial Memorandum of Agreement was signed between CDA and NWRB providing for an exchange of information between the two agencies. It is expected that the water cooperatives will be securing CPCs and water permits within the year. The fora were sponsored by the World Bank WPEP Program with the IDP consultants participating in the two fora.

### 3.1.5 LGU-run Utilities

In providing for water services within their area, LGUs may choose from any of the following models:

- a water district
- an LGU-run utility
- a franchise to a private utility, cooperative or RWSA
- a joint venture with a private party

It is estimated<sup>6</sup> that there are about 500 LGU-run utilities (about 200 are with Level III services) with only 4 being granted CPCs by the NWRB.

### 3.1.6 Condominiums / Townhouses

These are buildings or clusters of two-three story residential units in which the condominium corporation, homeowner association or the developer is operating the water system to the units and charging fees for its operation and maintenance from the unit owners.

In the National Capital Region (NCR) alone, there are about 333 such condominiums/ townhouses as of 1999. Around 70% of these are paying directly to Manila Water/Maynilad. The rest (30%) are charging their own water fees. This would translate to about 100 potential CPC market in NCR alone, but only about 4 have actually secured CPCs.

### 3.1.7 Economic Zones

Economic zones are areas devoted to industrial development. While there are nine zones that are CPC grantees, it is estimated that the potential market could easily be double this number.

### 3.1.8 Private

Private utilities are those companies which have been contracted to put up the water facilities and to operate and maintain same for a definite time period. There are currently four (4) private water utility operators with CPCs but this number is not expected to increase significantly within the medium term period.

### 3.1.9 Peddlers / Ship Chandlers

These are private entrepreneurs providing water to a select group of clients but operating without exclusivity within a given area. There are 46 with CPCs but not much is known about this group in terms of total numbers.

### 3.1.10 Estimated Total Client Size

Table 3 estimates that there is potentially around 1,800 utilities that should obtain CPCs, out of which only 327 have been granted CPCs. If NWRB were able to regulate all these clients, not only will their revenue increase, but it will make the agency truly a national economic regulator. The water districts (450) have not been

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<sup>6</sup> WPEP Studies, IBRD,2003

included in the list in the meantime as their operations currently do not require a CPC.

### 3.2 Operational Efficiency

NWRB's annual accomplishments from year 2000 to 2003 show a decline in terms of water permits approved, water use conflicts decided, verification of operation of non-permittees, monitoring of water utilities operations and testing of water meters.

#### 3.2.1 CPC / Tariff Approval System Efficiency

As of September 7, 2004, 17 CPCs (with rate approval) were approved during the year by NWRB. Table 4 below summarizes the time elapsed before approval for these 17 applicants was granted.

**Table 4 CPC Approval Period**

	Number	Processing Time in Months	
		Range	Average
Without opposition	10	7-41	16.5
With opposition	7	13-41	24.4

The long period required for approval is primarily due to procedural requirements, lack of manpower, budget constraints and inadequate data submitted by the applicant. See Chapter 5.3 for review of CPC/tariff approval process and proposals to simplify the process which will shorten the cycle to less than six (6) months.

#### 3.2.2 Organizational/Staffing Issues

Interviews with NWRB officials indicated several reasons for the efficiency problems as follows:

1. Lack of personnel, especially lawyers and technical staff

The agency has 4 positions for lawyers, but as of December 2004 only 1 is filled up. In January 2005 a lawyer cum acting Division Head was recruited. With its numerous public hearings for water permits and water rates, legal researches and decisions to be made, NWRB has even resorted to non-lawyer employees acting as legal hearing officers to reduce its backlog of cases.

There are only 5 staff of the Water Utilities Division devoted to tariff reviews covering about 327 existing CPC holders/new CPC applicants (or a ratio of 65 per staff). LWUA has about 30 tariff analysts handling about 470 water districts (or a ratio of 16 water districts per staff). The same staff of the Water Utilities Division is also in-charge of financial monitoring. Lack of personnel has been cited as one of the major causes of the delays in tariff reviews and financial monitoring of private utilities as discussed in more detail in Chapter 5, Tariff Methodology. NWRB plans to reassign around 3-4 staff from other divisions to the Water Utilities Division.

2. Lack of advanced skills

NWRB Staff have been conducting tariff reviews based on a one year test period. The enhanced system proposed in Chapter 5 requires broader knowledge of medium term water supply planning and more advanced Excel skills needed in using a tariff model. This requires an intensive capacity building program. NWRB engineers have

little or no experience in utility operations or well drilling which are basic knowledge needed in monitoring and evaluation.

### 3. Lack of operational budget

The operating fund of NWRB is appropriated on an annual basis by Congress. Table 5 below shows the annual cash revenues and operating budget since year 2000. Chapter 6, Section 2 discusses the collection problems of NWRB.

A cursory review of NWRB's budget shows a declining trend since 2003. With low cash collections and remittances to the National Treasury, it is likely that requests for increases in operational budget may not be approved. Unfortunately, NWRB's budget is so tight that at one time billing statements could not be mailed due to lack of stamps. Travel budget is also limited which impedes their data gathering and monitoring tasks. The agency has to take steps to increase its revenues if it wants an increased operational budget from the national government.

**Table 5 Annual Cash Revenues and Operating Budget**

Year	Accrued Revenues (Pesos Millions)	Cash Collections (Pesos Million)	Collection Efficiency	Operational Budget (Pesos Million)
2000		13.10		28.84
2001		14.89		28.27
2002		18.92		30.84
2003	155.8	15.13	10%	28.38
2004*	143.4	14.81	10%	28.36

\* As of Sept 2004

The government procedure for budgeting in regular agencies is really designed to prevent hiring new staff. Any budget proposal for year 2005 must include only those personnel already in the agency as of Dec 2003. The only way that new hires can be done is through retirement or resignation of existing personnel. Savings due to leaves without pay can also be utilized.

### Box 1 NWRB Steps To Increase Revenues

NWRB recognizes this predicament and is currently taking steps to increase its revenues such as (i) computerization of billing and collection system, (ii) increasing its client base, and (iii) initiating talks with Land Bank to assist in its collection efforts. It has also formulated a draft EO which, if approved by the President, will lead to an expanded structure and budget for NWRB.

### 4. Lack of continuity in leadership/agency focus

Since 2000, NWRB has had 3 different Executive Directors. The existing top management has only been with NWRB since the end of 2003 and has had to contend with different agenda priorities and loyalties of the different Division Heads and staff. Even the Board composition has been reconstituted only last year.

### 3.3 Organizational Restructuring

In February 2004, NWRB engaged the services of the Ateneo Research Network for Development for a study on a proposed organizational structure geared towards improving effectivity and efficiency on the use of its limited resources. The study identified problems in the staffing pattern of the existing structure, specifically uneven staff distribution and overlapping among the divisional functions. The study was completed in May 2004 and recommended, among others, the following key points:

- Creation of three (Luzon, Visayas, Mindanao) Area Operations and decentralization of major activities to these areas;
- Proposed staffing complement of about 170 as compared to the existing 126;
- Creation of the Financial Regulation Division under the Economic Regulation Services, to handle tariff reviews. The division will have a staffing complement of 8 compared to 5 at present.

The proposed structure will have positive benefits for the agency and will allow NWRB to perform its tariff review and financial monitoring responsibilities. A regionalized structure had already been proposed in the past (1990's) but was not approved by DBM. With the current fiscal crisis and NWRB's low revenue to expenditure ratio, NWRB may have difficulty in securing approval for the proposed structure from the DBM.

#### Box 2 Improving Organizational Efficiency

NWRB's management has recognized the organizational structure deficiencies and is taking some steps to improve the situation. They have secured the assistance of the Department of Justice lawyers to be detailed to NWRB to help in legal matters and are exploring ways and means to redistribute the workload, including some personnel movement. A new organization structure as proposed in the Ateneo Study is presently being discussed by the NWRB Board. Refer to Annex I for the proposed structure.

### 3.4 Capability Enhancement

Workshops and technical working group sessions were the main vehicles used to enhance staff capability. Refer to Chapter 7 for details.

### 3.5 Outsourcing through NWRB Deputized Agents

Even with the move to increase the financial regulation staff from 5 to 8, and the capacity building program, NWRB will still not be able to cope with the expected increase in client base, expected to reach about 2,000 CPC holders within the next few years. It is thus proposed that tariff review services be outsourced to service providers.

Actually, outsourcing of several services is already being practiced by NWRB. The Water Code provides the basis for NWRB to use deputation as a management strategy. Article 80 provides that "The Council may deputize any official or agency of the government to perform any of its functions or activities". Currently the NWRB utilizes about 500 deputized officials to process water permit applications. Deputies have been chosen primarily on the basis of technical expertise or capability. They

include regional and district officials of DPWH, regional and provincial heads of the National Irrigation Administration (NIA) and 186 water districts. As shown in Annex 2, the functions of the deputized agents are related only to water resource regulation, specifically evaluation of the technical facilities of the client. This function, although being performed on a case-to-case basis as requested, should be institutionalized through a Memorandum of Agreement (MOA) amendment (for DPWH and NIA) or a Memo Bulletin (for water districts or WDs).

Similarly, the use of economic deputies<sup>7</sup> is being explored to address the anticipated lack of manpower and tariff analysis skills to carry out the enhanced tariff review process discussed in Chapter 5. This concept could have some benefits for clients especially those in Visayas and Mindanao. A majority of CPC grantees are in the provinces and requiring them to file their application in Manila has been cumbersome, expensive and time consuming.

At the moment, only the water districts have the technical capability to review water tariffs and therefore act as deputized economic agents.<sup>8</sup> However, through a system of accreditation and training, other service providers such as Non-Government Organizations (NGOs), audit/management consulting firms, CDA officers from the region where the utility is located, could be developed. The costs of providing this service will be borne by the utility and recovered through the water tariffs. This raised the issue of fees to be charged since utilities are already paying the Supervision and Regulation Fee (SRF) to NWRB. This issue has been resolved by making the tariff review by a deputized economic agent optional. Utilities willing to pay a service provider will have the advantages of:

- Shortening the tariff processing period since NWRB only needs to confirm the deputy's report; and
- Having the assurance that the submitted tariff is consistent with the guidelines of NWRB and will assure the utility of attaining 12% ROI. At present, the review process does not allow NWRB to advise utilities to increase tariffs even if the utilities' operations result in lower rates of return.

While it is advantageous for both NWRB and its clients to have deputized economic agents, it is necessary that NWRB must first accredit or pre-qualify these economic agents and provide them some training on NWRB tariff methodology. The issue of fees and accountability of these firms also has to be addressed.

### Box 3 Problem of NWRB's Deputized Agents

Management recognizes the limited role of their deputies and as justified, "Our water resource deputies do not get any additional budget from us or from our clients and whatever they do for us comes out of their own time and operational budget".

<sup>7</sup> Economic deputies or agents are those utilized for tariff review purposes.

<sup>8</sup> In the first two stakeholders workshops conducted in Manila (September, 2004) and in Cebu (October, 2004) participants voiced their apprehension in deputizing water districts to review tariffs for NWRB due to a conflict of interest, since the private utilities lie within the geographical coverage of a WD.

## 4 Legal Issues

Assessment of Institutional aspects in Chapter 3 and Assessment of the Tariff Methodology raised several legal issues discussed in this chapter.

### 4.1 Board Jurisdiction over Private Utility Operators

#### 4.1.1 General

Initially, it was not clear which types of organizations providing water service fall under the jurisdiction of NWRB. Pursuant to the Public Service Act, NWRB has jurisdiction over the waterworks supply services provided by various persons or entities such as the subdivisions, resettlements, rural water service associations, water cooperatives, homeowners associations, the condominium, locators and economic zones. All such persons or entities should secure the Certificates of Public Convenience before they can operate as a private water utility. It is imperative that NWRB should circularize and make public its jurisdiction over the various persons and entities, on a national level.

#### 4.1.2 RWSAs

The jurisdiction of NWRB over RWSAs that are registered with the LWUA as well as those that are not registered with LWUA but are handled by other government agencies, can be clarified through a Memorandum of Agreement or an Executive Order between the concerned government agencies whereby the LWUA and other concerned government agencies will acknowledge the power and jurisdiction of NWRB over the water supply operations of the RWSAs while retaining their respective jurisdiction over the corporate, administrative and financial requirements of these RWSAs. A Memorandum of Agreement to be executed between the LWUA or concerned government agencies, on the one hand, and the NWRB on the other, could be initiated and entered into defining the respective jurisdictions and responsibilities of these agencies over the RWSAs.

#### 4.1.3 LGUs

The NWRB has limited regulatory jurisdiction over local government units (LGUs) establishing and operating their own water systems. Under the Public Service Act, the LGU run and operated water systems are exempted from the jurisdiction of NWRB “except with respect to the fixing of rates”<sup>9</sup>. Thus, LGUs will have to submit their proposed water tariffs to the NWRB for approval. There is no need for LGUs to secure certificates of public convenience from the NWRB since the Local Government Code itself has granted the LGUs that right to establish and operate water systems within their respective territorial jurisdictions. This exemption is not in favor of government ownership but of government operation. Thus, if a LGU owned water system is operated by a private lessee, then, the latter should secure a certificate of public convenience from the NWRB.

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<sup>9</sup> From Public Service Act



## **4.2 Enforcement of Compliance with NWRB's Rules, Orders and Decisions**

A major issue in economic regulation is enforcement of compliance by utilities with the requirements to secure water permits and CPCs. This sets the practice for enforcement of other proposed rules and guidelines under the revised Tariff Methodology. The current practice of NWRB provides for issuance of a cease and desist order against the persons responsible for violations (e.g. operators who do not secure water permits or CPCs). However, there is no clear rule on how to effectively enforce the cease and desist order. Moreover, there is apprehension that should the cease and desist order be strictly enforced, the community and consumers served by the private water utility services would suffer. Thus, it is seen that a cease and desist order may not be a deterrent nor an effective tool to enforce compliance with the law.

The Public Service Act or Commonwealth Act No. 146 as amended lays out stronger tools for the enforcement of compliance with the rules, decisions and orders of NWRB as follows:

1. For violation or failing to comply with the terms and conditions of the Certificate of Public Convenience, the private water utility shall be subject to fine after due notice and hearing. Payment of the fine shall be enforced through:
    - Suspension of the CPC until payment of the fine is made
    - By court action
  2. For performing prohibited acts or for failing to perform acts required by Public Service Act, the private water utility and all persons cooperating or participating in the prohibited act or omission shall be subject to:
    - criminal prosecution and
    - upon conviction, shall be penalized with fine or imprisonment
- NWRB will have to file criminal complaints with the Prosecutor's office of the place where the offenses are committed and to authorize its concerned officials or employees to testify on its behalf on the prohibited acts or omissions committed by private water utilities.
3. For obstructing NWRB or any of its Board members while engaged in the discharge of official duties or for conducting itself in a rude, disrespectful or disorderly manner before NWRB, the private water utility or its representative may be subjected to:
    - Indirect contempt punishable with a fine not exceeding P1,000.00 or imprisonment not exceeding 6 months, or both
  4. For threatened non-observance of the orders, decisions and regulations of NWRB and of the terms and conditions of the CPC may be enforced by:
    - Mandamus or injunction in appropriate cases
    - Action to compel specific performance of the order, decisions and regulations so made or of the duties imposed by law upon such utility

NWRB may compromise any case as it may deem just and reasonable.

The above tools need to be transformed into a set of specific rules detailing the circumstances under which a particular tool may be utilized to enforce its orders, decisions or resolutions. The rules will need approval by NWRB for the guidance of enforcement agents and the private water utilities.

Other possible tools which would lessen the impact of a strict enforcement of the law upon consumers or the community should be explored. One suggested mode being explored is the temporary takeover of the operations of the water utility. An Executive Order could make this effective.

### **4.3 Penalties for Violations of CPCs or Rules, Orders or Decisions of NWRB and Incentives**

#### **4.3.1 Penalties**

Another effective tool that would not cause adverse effect on the consumers is the criminal prosecution of violators of the CPCs and Public Service Act. The penalties provided for in Public Service Act can be applied by Board in cases of willful violations or omissions of orders, decisions, regulations of NWRB, committed by public utilities, their officers, employees, representatives or agents. These violations or omission are criminal in nature which make them punishable with fines or imprisonment.

Despite the importance attached to the provision of water service, Table 6 shows that the penalties of the Public Service Act appear to be much lighter than those provided by the Energy Regulating Commission (ERC) for power utilities and HLURB Decree for land developers. There is a need to reexamine criminal penalties provided for in the Public Service Act to determine their effectiveness as deterrent to commission of violations. This may require a study to be conducted by Criminology or Penology experts. Should there be need to increase the criminal penalties, passing a law amending the provisions of the Public Service Act regarding penalties is required under administrative law.

**Table 6 Comparison of Penalties**

Public Service Act (NWRB)		ERC Law	HLURB Decree
Adm. Fine	P200.00 per day (max) Until compliance	P50,000.00 To P5 million	P10,000.00
Criminal Penalties	P25,000.00 fine or 5 years imprisonment or both	P5,000.00 to P5 million fine or 6 years imprisonment or both	P20,000.00 (max) fine or 10 years imprisonment or both

#### **4.3.2 Rewards and Incentives**

There is question as to whether the grant of rewards and incentives should be legislated or made through mere executive fiat of the President of the Philippines or NWRB. Considering that unlike imposition of penalties for violations, grant of rewards and incentives do not affect basic rights of a person such as right to liberty and property, which are sought to be protected by the requirement of legislation in

administrative law, the same need not be written into law. Unless the incentive be in the form of tax exemption or privilege which need to be legislated, NWRB pursuant to its power to make and enforce reasonable rules and regulations and to impose conditions in the issuance of the CPCs, may provide for the grant of rewards and incentives. The same may also be made through an Executive Order of the President.

#### **4.4 12% Rate of Return on Investment Base**

The Public Service Act does not provide for the specific rate of return base to be applied for private water utilities. The Commission of Audit, however, interprets the RORB of public utilities to be at 12%. Unlike laws regarding the Energy Regulatory Commission and the MWSS and the Build-Operate-Transfer Law, where the RORB is fixed at 12% and in the absence of a specific law or Supreme Court decision limiting its power, NWRB is presumed to have the discretion to set the rate applicable to a given private water utility depending upon certain factors prevailing in a specific area.

Applying 12% RORB average return over the 5-year validity period is legally justified on the following grounds:

- NWRB is legally vested with broad discretion to determine just and reasonable rates. It can set such standards and guidelines as are just in the setting of rates.
- The COA representatives who attended the second consultation workshop voiced out their opinion that for as long as the NWRB sets the guidelines in determining just and fair return, and thereby, applying the 12% average RORB, there will not be any objection from their office to such method and guidelines.
- Several decisions of the Supreme Court do not limit the application of 12% RORB to an annual basis.
- MWSS also computes the rate of return due to its concessionaires on a 5-year basis as part of its rate rebasing exercise.

#### **4.5 Conditions of the Certificate of Public Convenience**

A certificate of public convenience constitutes neither a franchise nor a contract, confers no property rights. It is a mere license or privilege and such privilege is forfeited when the grantee fails to comply with his commitments behind which lies the paramount interest of the public, for public necessity cannot be made to wait, nor sacrificed for private convenience.

It is thus imperative that the conditions for the issuance of the Certificate of Public Convenience be clearly laid out in the certificate itself. The following conditions are suggested to be incorporated in the Certificate of Public Convenience:

- The term or duration of the CPC;
- The rate structure approved by NWRB to be implemented by the CPC grantee;
- The nature of the services to be provided, the committed standards for service efficiency or Levels of Service;
- Publication of the water rates and other charges approved by the NWRB and other terms and conditions imposed;
- The reporting requirements of the CPC grantee, the results of which may be published by NWRB or made available to the public;

- Maintenance of financial accounts in accordance with the manner and procedure specified in the CPC;
- Preparation and making available for public inspection, codes of practices specifying the manner and procedure for a) metering, billing and collection of the approved tariff and other charges; b) disconnection or suspension of service in case of non-payment of tariffs and/ or other charges, or acts of pilferage; and c) recommendation and recovery of arrears in tariffs and other charges;
- Disclosure of, and making available to the NWRB, any information or document, plan, electronic file or record that may be reasonably necessary for the NWRB to attain its objectives or to exercise its powers and functions.
- Annual performance audit by the NWRB or its designated agent, and at the end of the five-year CPC term, the review of its overall performance during said term and implementation of any disallowances determined during the said audits/review;
- Notice to NWRB of any major changes/deviations from the business plan submitted and approved at the commencement of the term;
- Restriction on or conditions for the transferability or assignment of the CPC, which transfer or assignment shall be subject to the prior approval of NWRB;
- Restriction on or conditions for the sale or disposition of the business of providing water service or the transfer of a controlling interest in such a business; and
- Compliance with applicable laws, orders, rules, regulations or ordinances issued by the local or national government, including its agencies or instrumentalities.

#### **4.6 Renaming the NWRB into National Water Regulatory Board**

The agency name of National Water Resources Board appears to be concerned only with water resources development or regulation. The agency's name should reflect its true role and function as an economic regulator as well as a resource regulator. An Executive Order is proposed renaming NWRB to the NATIONAL WATER REGULATORY BOARD. With the issuance of the Executive Order, other contemplated changes can be included like converting the NWRB into a regulatory agency attached to the DENR for policy and program coordination and administrative supervision, and those provisions that would strengthen capabilities of NWRB.

### **5 Tariff Methodology Review and Proposals**

The chapter summarizes the major findings and proposals related to the tariff methodology and process. The proposed guidelines are presented as Volume II of this Report (Revised Guidelines on Tariff Setting and Regulation).

#### **5.1 Methodology**

##### **5.1.1 Tariff Goals**

The NWRB tariff methodology, structure and process were evaluated in terms of attainment of generally accepted tariff goals. ADB ERD Technical Note No. 10<sup>10</sup> proposes a general approach to setting tariffs based on explicit and specific tariff goals covering the following:

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<sup>10</sup> Dole, D. and Bartlett, I., 2004. Setting User Charges for Financial, Economic and Social Costs. ERD Technical Note No. 10, Economics and Research Department, Asian Development Bank, Manila.

**Financial sustainability** requires the utility to have funds to cover all financial obligations as they occur.

**Good governance** requires that tariff should at the very least be simple, transparent and predictable. Good governance relates more to the implementation of the tariffs. Transparency and predictability relate more to the process of setting a tariff, rather than to the tariff itself. Simplicity, on the other hand, affects the tariff structure.

**Economic efficiency** is achieved through demand management and water conservation considerations in the tariff structure.

**Distributive justice** requires the public service to be distributed to meet society's standards for the amount of the service that everyone including the poor, deserves or needs.

**Fair pricing** is achieved if users pay the net social cost associated with their use of the public service, unless society has decided to subsidize some users.

The present focus of NWRB is on the financial sustainability goal which is the basis for its present tariff calculation.

### 5.1.2 Current Practice

Generally, NWRB uses the ROI<sup>11</sup> methodology in its tariff calculations. However, for subdivisions with occupancy levels less than 70%, it applies the Break-Even methodology. Under the ROI methodology, tariff is computed as follows:

$$\begin{aligned} \text{Maximum Allowable Net Income} &= \\ &+ \text{Net Book Value of Assets in Service} \\ &+ \text{2-Months Working Capital} \\ &= \text{Rate Base} \\ &\times 12\% \text{ ROI} \end{aligned}$$

$$\begin{aligned} \text{Revenue Requirements} &= \\ &+ \text{Maximum Allowable Net Income} \\ &+ \text{Operating Expenses} \\ &+ \text{Depreciation} \end{aligned}$$

$$\text{Average Tariff} = \frac{\text{Revenue Requirements}}{\text{Volume to be Sold}}$$

The Break-Even methodology<sup>12</sup> is similar to the above, except that there is no ROI. The required revenues are composed of the following:

$$\begin{aligned} \text{Revenue Requirements} &= \\ &+ \text{Operating Expenses} \\ &+ \text{Depreciation} \\ &+ \text{Reserve Funds} \end{aligned}$$

$$\text{Average Tariff} = \frac{\text{Revenue Requirements}}{\text{Volume to be Sold}}$$

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<sup>11</sup> NWRB uses ROI interchangeably with Return on Assets (ROA), Rate of Return (ROR) and Return on Rate Base (RORB)

<sup>12</sup> Board Resolution No. 03-1101, s. 2001

The reserve funds equivalent to 10% of water revenues are supposed to be used to fund the rehabilitation and replacement of existing assets.

The ROI methodology, based on the “utility” approach of calculating revenue requirements is a well accepted practice, simple and well understood. However, there are many issues, most of which result from the “one year test periods” presently being used. Table 7 gives a summary of the issues raised during the assessment and identifies whether they relate to methodology, process or structure.

**Table 7 Summary of Tariff Problems and Proposals**

Problems/Issues	Proposals	Methodology	Process	Structure
No specific and explicit tariff goals	Specific statement of tariff goals in the tariff proposal	X	X	
Tariffs not related to LoS	Specific statement of Levels of Service in the tariff proposal	X	X	
Tariffs based on one test year	Tariffs to be based on 5 Year Business Plan	X		
Lack of asset management planning	Inclusion of asset management plan	X		
No mechanism for disallowances of excess income and upward adjustments	Computation of disallowances/ upward adjustments at end of Year 5	X	X	
No assurance that the maximum allowable income will be met by the water rates to be implemented	Use of the quantity block method.	X		X
Return on asset issues and some distortions in calculation	<ul style="list-style-type: none"> <li>• Guidelines on asset base to be provided;</li> <li>• Database to be built on capital structure of private utilities and cost of capital for future study on 12% return;</li> <li>• Correction of distortions</li> </ul>	X		
Inadequate review of the performance under previously approved tariffs to ensure that 12% ROI was not exceeded	Compulsory tariff reviews at the end of year 5 to determine compliance with 12% ROI and as a basis for extension of CPC validity		X	
Tariff proposal not revisable upwards once published, if later NWRB review shows proposed rates will not reach the 12% ROI	Revision of process, tariff review before publication		X	
Delayed implementation of necessary tariff increases due to long tariff review process, extending the period of losses beyond what utility operators anticipated and planned for	Targeting of maximum of six months for the tariff process		X	

Problems/Issues	Proposals	Methodology	Process	Structure
Lack of financial monitoring and feedback provided by NWRB to the water utilities	NWRB's annual review of utilities to be enhanced and strengthened, to facilitate evaluation of next tariff rates request <sup>13</sup>		X	
Inadequate review of performance under previously approved tariffs to ensure that 12% ROI was not exceeded.	Compulsory tariff reviews end of year 5 to determine compliance with 12% ROI and as a basis for extension of CPC validity.		X	
Not clear and explicit policy on provision of service to the poor	NWRB policy and hence tariff proposals to cover, where applicable: <ul style="list-style-type: none"> <li>• Delivery of service to the poor,</li> <li>• Affordability of minimum block consumption based on 5% of household income of the poor</li> <li>• Affordability of connection charges, and considering installment terms</li> </ul>			X
No conscious effort to discourage excessive consumption. Currently, water conservation is promoted through increasing tariffs among consumption blocks.	Continuation of existing practice of increasing tariffs as consumption goes up. Encouraging of utilities to charge sharper tariff increase as soon as consumption exceeds the general average consumption of the utility.			X
No existing regulation to consider difference in meter sizes in determining the tariff structure.	Allocation of cost per customer category, per meter size, and structure tariff accordingly	X		X

### 5.1.3 NWRB Resource Constraints

The current ROI methodology which calls for setting tariffs on “one year test periods” resulted in problems in monitoring and regulation primarily because of the short study period. Regular annual rate reviews of approved tariffs could have minimized the problems, but these were not done due to several resource constraints including lack of manpower (four personnel in the Tariff Division to handle rate review needs of more than 300 CPC holders) and lack of operating budget for travel for field verification activities. See related discussion in Chapter 3, NWRB Institutional Assessment.

The problems are expected to intensify as the demand for rate review skills increase. 1,500 more utilities could be made to obtain their CPCs within the next two years, as NWRB steps up its drive to accelerate CPC registration. Considering the above, it was determined early in the conduct of the study that in order to ensure implementability, proposed changes to the methodology or process would have to

<sup>13</sup> See Chapter 6 on Financial Monitoring

work around a longer study period for tariff setting<sup>14</sup>. Five years was agreed as a reasonable period for the coverage of a tariff study and this now becomes one of the parameters for proposed changes.

#### 5.1.4 Framework for Change

1. In advocating a change in the tariff setting methodology, the following government priorities or policies must be taken into account:
  - a. Cost recovery. Tariffs must be sufficient to recover all relevant costs to ensure system sustainability. This can be done through preparation of a five-year business plan and targeted service levels to ensure that all costs will be considered over the study period.
  - b. Water conservation. The tariffs must be designed to promote water conservation practices, such as higher unit rate for increased consumption blocks.
  - c. Level of efficiency. The process for approving tariffs must improve the efficiency levels of the utility so that its inefficiencies are not passed on to the consumer. This will be done by KPI comparisons and compulsory tariff reviews to determine disallowances (or even upward adjustment) based on the cost of service approach to tariff regulation. Tariff reviews will also be one of the bases for extension of the CPC validity.
  - d. Affordability. The resulting tariff should be within the paying capability of the low income group. This will be ensured by making the minimum charge not more than 5% of the household income of the low income group.
2. The tariff goals being proposed, after taking the four government policies mentioned above, will focus on the following:
  - a. Good governance<sup>15</sup>. This tariff goal focuses on three aspects:
    - i. Transparency, where the public should be able to understand the tariff setting process, and how the charges were set for every type of customer;
    - ii. Simplicity, where the charges resulting from the tariff should be clear and understandable, so that customers can understand how they might modify their use of the service and reduce their charges; and
    - iii. Predictability, where the tariff should not disrupt otherwise rational private decisions, especially investment decisions and others with long-term implications.

This goal is important for the acceptability of the tariff on the part of consumers.

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<sup>14</sup> Under the Public Service Act, the NWRB has the power to set and fix the terms/conditions of the certificate of public convenience it issues to private water utilities. Among the conditions are the validity period of the certificate and water tariffs/rates that can be charged customers. The maximum franchise period allowable under the Public Service Act issued a CPC is fifty (50) years.

<sup>15</sup> Dole, D. and Bartlett, I., 2004. Setting User Charges for Financial, Economic and Social Costs. ERD Technical Note No. 10, Economics and Research Department, Asian Development Bank, Manila.



- b. Financial sustainability. This involves financial analysis focusing on establishing the financial obligations or revenue requirements the utility would face in both the short and medium term period. This goal ensures that the water service provider is fairly rewarded for its efforts so that it can render continuous, satisfactory service to its consumers

The above-mentioned tariff goals and government practices have guided the development of options and proposals in the succeeding chapters.

### 5.1.5 Tariff Calculation

With the change to a 5-year tariff period, the NWRB methodology based on a “utility approach”, and presently based on “one year test periods” was reviewed. Options, more in line with longer term planning and tariff setting were explored. These options include a 5-year ROI method and the discounted cash flow method:

**The 5-year ROI method** is essentially the present ROI methodology but expanded to a five year period.

#### Advantage

- The method is simple and NWRB and the utilities are familiar with the tariff calculation.

#### Disadvantages

- Results in abrupt tariff increases during years when there is substantial expenditure
- Does not consider the time value of money

**The discounted cash flow** uses the “cash flow approach” and discounting to consider the time value of money, which is now a major factor in setting tariffs due to the 5-year period. The essence of the “cash needs approach” is that the revenues of the utility must be sufficient to cover all cash needs, including debt obligations as they become due, for the period over which the rates are intended to be adequate. The basic revenue requirement components generally include O&M expense, debt service requirements, and capital expenditures not debt financed.<sup>16</sup> The Local Water Utilities Administration (LWUA) uses this simple cash flow method for rate determination for water districts.

A further enhancement of the cash flow method is the discounted cash flow (DCF) which is a generally accepted regulatory practice. The DCF adds the concept of discounting to the simple cash flow method. This is used by MWSS and the Subic Bay Regulatory Board in their review for tariff adjustments. The resulting revenue requirements are in constant prices and discounted using an appropriate discount rate over a 5-year period. A 12% rate is used in the illustrative calculations to allow comparability with the ROI methodology which uses the same rate. The result of the DCF calculations is a basic tariff in year 1 constant price, to increase annually by Consumer Price Index (CPI) or inflation.

#### Advantages

- Reduces price shocks as basic tariffs are set in year 1 and thereafter to increase by inflation;
- Discounting allows proper recognition of the time value of money; and

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<sup>16</sup> Water Rates, AWWA (American Water Works Association) Manual M1, Fourth Edition, 1999.

- In the future, this method is easier to integrate with LWUA's cash flow methodology for tariff setting.

**Disadvantages**

- Determination of discount rate may be difficult due to lack of data on utilities and the wide variation in their organization types, capital structures and gearing ratios (debt/equity);
- Discounting makes the methodology more complex than ROI methodology; and
- Intensive training would be required for NWRB and utilities to cover not only water supply planning but also discounting concepts.

Table 8 shows the comparative tariffs in current prices for one of the pilot areas, Helpmate, Incorporated. Helpmate's business plan show substantial rehabilitation expenditures in Years 2, 3 and 4. Table 8 below shows the tariff for year 1 to be almost the same under the 5-year ROI and discounted cash flow methods. The discounted cash flow method shows gradual increases in later years, as increases are only due to inflation. The 5-year ROI method shows fluctuating tariffs in subsequent years, depending on the investments during a given year. Similar trends were observed in the other pilot areas. See Section 5.6.

**Table 8 Comparison of Tariffs Under Three Tariff Setting Methods**

Tariff Setting Method	Year 1	Year 2	Year 3	Year 4	Year 5
ROI Method (Existing)	5.94	--- Same as Year 1 ---			
5 Year ROI Method	5.94	6.22	6.64	6.22	6.11
Discounted Cash Flow	5.95	6.25	6.50	6.75	7.03

Discussions with NWRB staff and officers in several Technical Working Group (TWG) sessions, and discussions with private utility operators reveal concern that the change to a "cash flow" approach and the complexity of the discounted cash flow (DCF) concept would make explanation of the methodology to their consumers difficult. The consultants' assessment is that the private utility operators themselves are not yet ready and will need to be capacitated in this area in the coming years. This is even more critical in some of the clients of NWRB (homeowners associations, rural waterworks associations and cooperatives) which have very simple operations, and relatively fewer customers.

For the above reasons, and considering the other disadvantages of the DCF, it is proposed that the 5-Year ROI method be adopted as a standard for all private utilities under NWRB. In anticipation of NWRB's rate review and approval of water district tariffs per EO 123, NWRB can consider using Option 2 or the DCF in the future since LWUA and the water districts have already been using the simple cash flow for many years. It is expected that the use of discounting will not be very difficult for the water districts. The Tariff Model makes this transition very easy for NWRB since the same model results in tariffs under both 5 Year ROI and DCF methods.

A final step at setting the average tariff is proposed to smoothen the price increases over the 5-year period. This calls for the use of an Average ROI, computed by dividing the total revenue requirements for the 5 years with the total consumption for the 5 years. In case the resulting tariff requires an increase higher than 80%<sup>17</sup> or in the event of wide variances between the projected and actual operating and financial targets, a multi-step increase may be allowed. To reduce the administrative costs of

<sup>17</sup> Per NWRB Board Resolution No. 4-1000 dated October 23, 2000, NWRB may approve a request for tariff increase as long as it does not exceed an 80% increase over the existing rates, except if the existing tariff rates have been in effect for three years or more.

frequent adjustments, no more than two adjustments in the five year period will be provided consisting of:

- First tariff adjustment – initial increase upon approval of tariff proposal based on the average 5 year tariff
- Second tariff adjustment – adjustment tariff during the third or fourth year

The second tariff adjustment is critical because it gives the utility a chance to review past performance during the preceding two or three years and adjust the tariff accordingly to avoid huge disallowances at the end of the five year period.

### **5.1.6 Tariff Model**

A financial model is a tool used to facilitate the evaluation of desired results. It is composed of input data (such as historical financial data, basic assumptions and variables) as well as reports required for analysis and evaluation. A model also allows for sensitivity analysis for “what-if” scenarios.

A standard model applicable to all types of private utilities regulated by NWRB has been developed as part of this project. It is composed of the basic Excel file and a supporting capital expenditures file. These two files contain several sheets linked to each other. The model has input sheets for opening balances, existing tariff structure and consumption, proposed investments, classification of existing assets, and assumptions.

Once the data are encoded in the input sheets, they are picked up by the computation sheets (Supply and Demand sheet, Operating Expenses sheet, CAPEX sheets for total assets, depreciation, accumulated depreciation and net book value) to produce the Evaluation Report, Key Performance Indicators, Income Statement Flow of Funds Statement and Balance Sheet. There is also a Highlights sheet which allows the user to streamline the assumptions and variables to come up with improved results and check for what-if scenarios. The model calculates the tariff required under the 5 year ROI and the DCF methods. Once the required average tariff is calculated by the model, the private utility will have to accordingly design its water rates structure so that the 12% ROI is not exceeded. This is also done within the model.

## **5.2 Rate Structure and Rate Design**

Under the existing guidelines, residential consumers have nine quantity blocks, consisting of multiples of consumption of ten cubic meters for the first seven blocks, a block for 71 to 100 m<sup>3</sup>, and consumption over 100 m<sup>3</sup>. There appears to be many blocks above the average consumption where there are not many consumers, such that their higher tariffs do not have a significant effect in curbing consumption towards water conservation.

It has been observed from the pilot utilities that their average monthly consumption range from 21.35 m<sup>3</sup> to 43.33 m<sup>3</sup>, or an average among them of 31.73 m<sup>3</sup> (see Table 9 below).

The industry average monthly consumption of residential connections of water districts is 21 m<sup>3</sup>. Based on these observations, the number of quantity blocks can be reduced to improve its efficiency in promoting water conservation.

**Table 9 Average Monthly Consumption in Pilot Utilities**

Water Utility	Average Consumption	Remarks
Adon	21.35	Consumers come from middle income group
Helpmate	36.76	Serves several baranggays
Kauswagan	43.33	Serves several baranggays; most connections are public taps
Moonville	38.21	Consumers come from middle income group
Sta. Lucia	19.00	Resettlement area
Average	31.43	

It is therefore recommended that the residential consumers have a maximum of six quantity blocks, as follows:

- 0 – 10 m<sup>3</sup>
- 11 – 20
- 20 – 30
- 31 – 40
- 41 – 50
- over 50 m<sup>3</sup>

At present, NWRB has regulations for the quantity blocks for industrial consumers<sup>18</sup>, but not commercial consumers. It is planned that commercial consumers be classified together with industrial consumers. However, commercial consumers should be those whose consumptions are significantly higher than residential consumers, not just because they have a business permit.

The recommended quantity blocks for commercial and industrial consumers would thus be as follows:

- 0-25 m<sup>3</sup>
- 26-1000 m<sup>3</sup>
- over 1000 m<sup>3</sup>

The water rate structure comprises two parts: the minimum charge and the commodity charge.

The minimum charge is also known as service charge or demand charge. Whenever possible, it should be able to cover all the fixed costs required to carry on the vital water supply functions not directly related with production and distribution. It ensures that there will be enough revenues to meet the utility's basic costs during periods of low water sales, such as when there is a drought or for other reasons.

The minimum charge should be within the ability of the low income users to pay for the lifeline consumption in its service area. In general, this is set at ten cubic meters of water<sup>19</sup>. This volume is assumed to be enough for the basic needs of a low income user. The minimum charge should not exceed 5% of the family income of the low income group in the municipality where the water utility operates.

Every five years, the National Statistics Office publishes the results of the Family Income and Expenditures Survey. This contains the family income of the low income group for the year of the survey. For any given year after the survey, the household

<sup>18</sup> NWRB Board Resolution No. 06-0700 dated July 24, 2000 refers to industrial consumers only.

<sup>19</sup> Based on lifeline consumption of 10 m<sup>3</sup>. Other utilities (Kauswagan) have established a lower level of 7 m<sup>3</sup> for the minimum block.

income is derived by multiplying the income for the survey year by the general inflation of the years from the year of the survey to the given year being computed.

The commodity charge is the amount to be charged for consumption beyond the minimum charge. This amount varies according to volume produced and consumer category.

The quantity block method is recommended to be the method to be used to convert the determined revenue requirements into the water rates to be implemented. This supports NWRB's policy to promote conservation of water by having higher tariff for higher consumption. Under this method, there is an incremental factor that serves to define the intervals of water rates between quantity blocks. This incremental factor is an important mechanism in demand management. A steeper increase in the incremental factor after the block where the water utility's average monthly consumption falls, will result in a big jump in water rates for that block<sup>20</sup>. This practice will discourage excessive consumption beyond the average monthly consumption and promote water conservation.

### **5.3 Tariff Regulation**

At the end of year 5, the actual average ROI attained over the 5-year period will be compared against the approved ROI. The excess/deficiency could be the basis for a disallowance or upward adjustment for the succeeding tariff review/adjustment.

### **5.4 Proposed Guidelines**

Based on the assessment and proposal for changes, Revised Guidelines on Tariff Setting and Regulation have been prepared and are submitted as Volume II of the Final Report. The guidelines will be published for use by the stakeholders, primarily NWRB and the utilities.

The guidelines also include an electronic copy of the Tariff Model. Limited copies of the model will be submitted to NWRB.

### **5.5 Pilot Utilities**

#### **5.5.1 Selection of Pilot Utilities**

Five (5) pilot utilities as shown in Table 10 below were selected to test the proposed tariff methodology, based on the following criteria:

1. Must currently have a pending request for tariff approval or CPC application with NWRB.
2. Represents one of the different organization types (e.g. subdivisions, homeowners associations, condominiums, rural water and sanitation associations, water cooperatives, peddlers, bulk vendors and resettlement areas.)
3. Represents a mix of small, medium and large utilities based on number of connections.
4. Must come from Luzon and Visayas which contain about 93% of total CPC grantees.
5. Represents all income groups of customers.

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<sup>20</sup> Based on an average monthly domestic consumption of 30 cu.m. the Metro Cebu Water District (MCWD) has structured its rates such that when consumption exceeds the bracket of the average consumption, tariff drastically increases. MCWD's rates are P11.97 for the 11-20 consumption level, P14.07 for the next 10 cubic meters, and steeply goes up to P38.61 for consumption over 30 cubic meters.

**Table 10 Project Pilot Utilities**

Pilot Utility	Organization	Income Levels of Customers	Application Type	Maximum Connections
<b>Luzon Area</b>				
Adon Development Corporation (Biñan, Laguna)	Subdivision	Middle Income	Tariff Increase	739
Moonville Homeowners' Association (Parañaque, Metro Manila)	Homeowners' Association	Middle Income	CPC	158
Sta. Lucia Water Inc. (Pampanga)	Resettlement Area	Low Income	CPC	3,000
<b>Cebu Area</b>				
Kauswagan Water and Sanitation Service Cooperative (Cebu)	Cooperative	Low Income	CPC	1,131
Helpmate, Incorporated (Cebu)	Private Operator	Middle Income	Extension of Service Area	311

## 5.5.2 Results

### 1. Applicability of a Standard Model

The standard model which has been developed was capable of being used in the five pilot areas in spite of their varying organizational, financial and operational characteristics. The model uses both the ROI and DCF approaches and essentially calculates the tariff required to generate the desired return. A minor problem was differing practices in the classification of assets. Some of the pilot utilities did not follow the classification of assets circulated by NWRB. This can however be easily remedied through issuance of guidelines. It is observed that the pilot utilities followed the classification of income and expense accounts prescribed by NWRB.

### 2. Options for Tariff Calculations

Data from the pilot utilities were also used to test the tariff calculation options. Table 11 shows the result of the water rates under the existing, modified ROI and discounted cash flow methods.

Under the modified ROI method, the average tariff may go up or down from year to year during the five-year regulatory period, depending on the level of investments incurred on a given year.

The average tariffs under the discounted cash flow method always go upwards. This is because the rate base that has been discounted is annualized and divided by the average volume to be sold during the regulatory period. The resulting average tariff is then allowed to increase from year to year together with inflation. And because of the effect of discounting, where the present values of the rate base are all brought forward to Year 0, the average rates are lower than the modified ROI method.

### 5.5.3 Acceptability of Proposals and Assessment of Capability to Implement New Methodology

The proposed methodologies were explained to the pilot utilities. During the field visits, five-year plans were developed and encoded in the standard tariff model. The

resulting financial projections and proposed tariffs were further discussed and refined with the management and staff of the utilities.

The pilot utilities find the new methodologies acceptable, although they favor the modified ROI method because it is easier to explain to their customers. All the pilot utilities are able to do their own asset management plans and business plans. If they do not have their in-house expertise, they can hire the financial and/or technical expertise for these purposes. They have staff who can work around Excel which is required to run the financial model.

**Table 11 Comparison of Water Rates Between Modified ROI and Discounted Cash Flow Methods**

Pilot Utility	Methodology	Annual Tariff, P/m3				
		Year 1	Year 2	Year 3	Year 4	Year 5
Adon Development Corporation	Existing	7.37				
	Modified ROI	7.37	8.86	9.43	10.76	11.04
	Discounted Cash Flow	7.19	7.55	7.85	8.17	8.49
Helpmate, Incorporated	Existing	5.94				
	Modified ROI	5.94	6.22	6.64	6.22	6.11
	Discounted Cash Flow	5.95	6.25	6.50	6.75	7.03
Kauswagan Water and Sanitation Service Cooperative, Inc.	Existing	5.72				
	Modified ROI	5.72	6.22	6.37	6.22	6.11
	Discounted Cash Flow	5.69	5.98	6.22	6.47	6.72
Moonville Homeowners' Association	Existing	22.26				
	Modified ROI	22.26	24.47	26.21	27.14	29.26
	Discounted Cash Flow	22.34	23.46	24.40	25.37	26.39
Sta. Lucia Water, Incorporated	Existing	5.17				
	Modified ROI	5.17	5.38	5.92	6.22	6.58
	Discounted Cash Flow	4.81	5.05	5.25	5.46	5.68

### 5.5.4 Other Issues

Different situations in the pilot utilities highlighted the need for NWRB to provide regulatory guidelines to the utilities as shown in Table 12.

**Table 12 Summary of Issues Identified in the Pilot Area Studies**

Main Findings		Proposal
1	No NWRB financial review/ tariff adjustment for one pilot area in the past 13 years since 1991, resulting in financial losses	Compulsory 5 year reviews will avoid these situations
2	Under current practice, application for extension of service area does not require a financial review. However, our review reveals that if the same water rates were applied for its existing service area to the extension area, the resulting ROI would be much higher than 12%	5 year reviews will reveal excess returns which will result in disallowances allowing the system to correct itself in subsequent rate adjustments
3	One of the pilot areas sell plumbing materials to consumers for a 5% - 6% profit. While related to water supply service, this is a non-regulated activity since it is not a monopoly and the buyers can buy plumbing materials from other sellers in the area. The volume of these activities is substantial with the sale from plumbing materials accounting for 47 %	Need for NWRB to define regulated via a vis non-regulated activities

Main Findings		Proposal
	of the total revenues. This activity should be excluded in calculating the revenue requirements since it is not subject to regulation by NWRB.	
4	Two of the pilot areas have executed management contracts for the operation of the water supply system. One area, has a management contract in addition to existing staff still working in the utility.	Need for guidelines on management contracts, particularly where they refer to transactions with affiliated companies.
5	Assets include those assets donated by the subdivision developer	Under the proposed guidelines, donated assets are not subject to return
6	One of the pilot areas have four consumer categories: residential, public taps, institutional and commercial. The residential consumer category's minimum charge is for the first 7 m <sup>3</sup> consumed only, while in the other consumer categories, it is for ten cubic meters. The other pilot utilities also maintain 10 m <sup>3</sup> consumption subject to the minimum charge.	NWRB should encourage assessment by utilities of the actual lifeline consumption, instead of the practice of accepting the standard 10 m <sup>3</sup> as the lifeline consumption. Guidelines also need to be issued on the rate design and the need to have multiple customer categories.

## 5.6 Tariff Appraisal Process

### 5.6.1 NWRB's Current Tariff Setting Process

Under the present practice, the average time to process an application to implement tariff rates ranges from 6 to 24 months. Reasons for this long process are as follows:

- Incomplete or incorrect data received at time of application
- No hearing officer available
- Lack of technical personnel to conduct the technical evaluation
- Lack of personnel to conduct the financial evaluation

Under NWRB's existing tariff setting there is no consultation on key issues like levels of service or key performance indicators, which form the basis for the proposed tariff. Prior consultations with customers and/or their representative groups will minimize issues that could be raised by parties opposing the tariff increases, thereby reducing the time for hearings.

### 5.6.2 Proposed Tariff Setting Process

The proposed tariff setting process assumes prior consultation activities have been undertaken. It is estimated to take a maximum of six months from the time of filing with NWRB as shown in Figure 1.

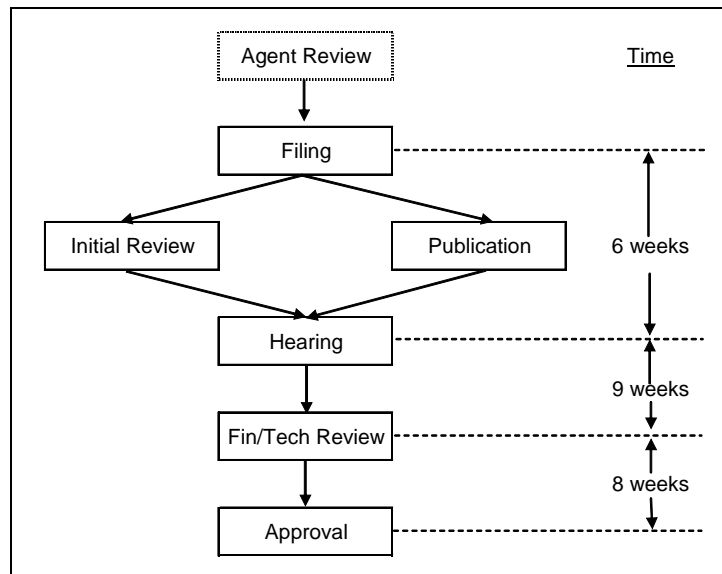
The proposed procedures feature the following to ensure the process is completed within the six month period:

1. The agent review is optional and may be carried out by economic deputies as discussed in Chapter 3.5. This will allow the applicant to be properly advised as to the appropriateness of the proposed tariff and to make any necessary adjustments before it is published. The agent's review can already serve as the initial review of the NWRB.



2. As part of the filing procedures, it will be the section chief of the Water Utilities Division (WUD) certifying to the completeness of the documents. In this way, the applicant will be properly informed not only about missing information but also on the accuracy and propriety of the data given.
3. The tariff analyst has a deadline to complete the initial review before the set date of the hearing. The hearing officer can order the applicant to submit missing data. Levels of service can also be discussed here with consumer or opposition groups.
4. The final financial/ technical review will merely focus on technical evaluation or modifying the economic tariff based on new submissions or agreement during the hearing.

**Figure 1 Proposed Tariff Process**



### 5.7 Summary of Major Changes to Tariff Methodology

The summary of major changes proposed for the methodology on tariff setting and regulation are shown in Table 13 below.

**Table 13 Major Changes to Tariff Methodology and Tariff Goal Addressed**

Topic	Major Changes
Methodology	Use of 5-year tariff period
	Calculation of average ROI within the 5-year tariff period
	Assets in service that are entitled to return as base of ROI
	No more break-even method
	Implementation of Depreciation Reserve Fund for all utilities, in lieu of the sinking fund for utilities under the break-even method
	Power cost adjustment to be done through the Extraordinary Price Adjustment process
	Use of a tariff model
Tariff structure and design	Fewer quantity blocks for residential consumers
	Grouping together these consumers: residential + public taps + institutional Industrial + commercial
	Use of incremental factor in the quantity block method
	Adoption of the quantity block method
	Affordability of minimum charge by low income group

Topic	Major Changes
Tariff regulation	Mechanism for disallowances / upward adjustment at end of 5-year tariff period
	Use of KPIs as benchmarks
Tariff setting process	Tariff validity coincides with CPC validity
	Use of Business Plan, Asset Management Plan
	Levels of service commensurate to tariff agreed with consumers
	Use of economic deputies to augment NWRB manpower
	More efficient initial review to lessen delay due to incomplete documentation

## 6 Financial Aspects

### 6.1 Financial Monitoring of Water Utility Operators

#### 6.1.1 Key Performance Indicators (KPIs)

##### 1. KPI Requirements

Key Performance Indicators (KPIs) are the most important indicators that capture the aspects of service quality and operational performance that are most essential to the regulator, water service providers and their customers. Adopting appropriate key performance indicators (KPIs) will enable the water regulator to monitor effectively the performance of the CPC grantees, and in turn, enable the regulator to report on the performance of the grantees to its customers and other stakeholders. The KPIs can also be an important information management tool for the grantees in its business planning processes and financial budgeting. Moreover, indicators are very useful in financial and technical analysis.

For the proper and efficient financial monitoring of performance and for KPIs to be most useful, indicators need to be:

- Linked to regulatory requirements;
- Relatively few in number and wisely chosen;
- Straightforward to measure, report and audit;
- Indicative of overall performance;
- Relevant to the water utility operators; and
- Comparable across other similar service provider.

There is no standardized set of performance indicators that should be used and the choice will depend on the regulatory requirements and its objectives.

##### 2. Financial Monitoring Performance

The CPC grantee has the responsibility to meet the agreed levels of service and performance targets and report its actual performance against these targets to the water regulator. The role of the regulator is to (i) monitor performance against the targets; (ii) undertake as often as necessary, audits to verify the procedures used by the grantee to measure performance and verify the information provided, and (iii) take enforcement action if required. For the financial monitoring to be most effective, it is important that there is agreement on how each of the indicators will be measured and reported to the water regulator.

### 3. Selection of KPIs

The regulatory framework should establish the service obligations related to aspects of levels of service and operational performance. Based on these requirements, specific KPIs can be identified to represent these obligations, and targets can be set to require certain levels of service or performance and/or encourage improvements in performance. These targets may be set in accordance with national standards or requirements within a contractual arrangement or they may be set by the regulator in accordance with general service obligations. It is important that the regulator and the service provider agree on how each of the KPIs is defined, how it should be measured, and how it should be reported.

### 4. Proposed Financial and Technical Key Performance Indicators

The water regulator can review and assess the financial performance of a water utility using selected KPIs. The KPIs that are commonly used for monitoring financial viability are based on financial ratios that are used for financial purposes. The ratios are applicable to any business and are derived from data found in the basic financial reports of a water service provider including the balance sheet, income statement and statement of retained earnings. The Consultant, in coordination with the benchmarking study funded by the Water and Sanitation Program for East Asia and the Pacific under the World Bank, formulated and introduced KPIs that the regulator can use to measure the financial and technical performance of the water service providers under its jurisdiction. These are shown in Table 14 below. The actual KPIs attained may also be compared with the target KPIs set during the approval process of the water service provider's water rates. NWRB can formulate other performance indicators as long as these are necessary in attaining its ultimate objective.

Table 14 Key Performance Indicators

KEY PERFORMANCE INDICATORS	FORMULA / METHOD
<b>A. Marketing Effort</b> 1. Average Consumption 2. Annual Average Water Sales	Total Cu M. Billed/Total No. of Connections Water Sales/Total No. of Connections
<b>B. Profitability</b> 1. Net Income Ratio 2. Rate of Return	Net Income/Operating Revenues Net Income/ Average Net Fixed Assets
<b>C. Cost Efficiency</b> 1. Operating Ratio 2. Average Operating Costs	Total O and M costs/Operating Revenues Operating Expense/Cu. M. Billed
<b>D. Collection Effort</b> 1. On-Time Payment 2. Collection Efficiency-YTD 3. Average Collection Period	Current Collections/Current Billings Total YTD Collections /Total YTD Billings Accounts Receivable,end/(Water Sales/365)
<b>E. Financial Liquidity</b> 1. Current Ratio	Current Assets/Current Liabilities
<b>F. Production Efficiency</b> 1. Non-Revenue Water (NRW) 2. Availability of Water	Water Produced-Water Billed/Water Produced Average Hours of Water Availability
<b>G. Personnel Management</b> 1. Personnel Ratio	Active Service Connections/No. of employees

**Marketing Effort** – This measures the capability of the water utility operator to sell its products to the people. To assess the performance of the service provider concerning marketability of products (water), two (2) performance indicators were devised and these are: (a) Average Consumption and (b) Annual Average Water Sales.

**Profitability** – This measures the results of the operations of a water utility in terms of its earning ability. It also measures the utilization of the assets through revenue generation, the relationship of income to expense and the ultimate return on the investment. There are a number of widely used profitability ratios, but for the regulation of water utilities, the ratios that indicate a general level of profitability are sufficient.

The Net Income Ratio and the Rate of Return are indicators that usually determine the profitability of the service provider. Net income ratio is derived by dividing the net income against the gross revenues. Whereas, Rate of Return is the % return on investment in relation to invested capital on capital expenditures (outlays).

**Cost Efficiency** – This assesses and evaluates the effectiveness of the utility operator to implement cost control measures in its operation. Under this section, two (2) indicators were developed and these are: (a) Operating ratio and (b) Average Operating Costs. The operating ratio is arrived at by dividing the total operating expenses against total operating revenues. On the other hand, average operating costs is calculated based on the total operating expenses divided by the total volume of cubic meters billed.

**Collection Effort** – This gauges the efficiency of the water utility in collecting the current bills as well as the overall collection. To achieve its objective with regards to cost recovery, the water utility operator should effectively implement its collection policies, specifically the strict application of penalties on delinquent customers.

There are three (3) ratios that were formulated in relation to collection of water bills: the (a) on-time payment, (b) collection efficiency (year-to-date) and (c) average collection period. Ratio on “On-Time Payment” refers to the percentage of customers who pay their bills on time, while, “Collection Efficiency-YTD” determines the percentage of the accumulated collections against year-to-date billings. “Average Collection Period” is expressed in number of days and derived by dividing the ending balance of receivables against the average daily sales.

**Financial Liquidity** - This measures the water utility’s ability to meet short-term obligations through the current ratio. The current ratio is used to determine whether the current assets are enough to settle all current liabilities. Current assets are usually composed of cash, receivables (trade) and inventory, whereas current liabilities are payables that are due within the year. The standard current ratio is 1:1.

**Production Efficiency** – This measures the efficiency of the water utility operator to meet the standards on water production and the capacity of its facilities to meet demand and minimize losses. In this area, two indicators were proposed to assess the technical performance of the water utility, i.e. (a) % of Non-revenue Water (NRW) and (b) Average hours of water availability. NRW refers to the water produced that are not billed and sold to customers. Non-

revenue water normally results from leakages, illegal connections, water from fire hydrants, system operational testing, etc. High NRW, if not improved will definitely affect the revenue generation. Immediate solutions must be implemented such as early detection of illegal connection and leakages and even pipe replacements.

Personnel Management – This measures the efficiency of personnel in rendering services to customers. One key indicator here is the personnel ratio and this determines whether the water utility is over or under-staffed. Personnel ratio is computed based on the number of active service connections divided by the present number of employees.

## 5. Industry Average

Industry average refers to the setting-up of benchmarks or standards among service providers in the water sector. Benchmarks can be in the form of indicators (KPIs). To establish benchmarks there is a need to classify the service providers into several categories, set-up criteria, gather actual and accurate information (financial and technical), analyze and process the data to arrive at the proper industry average for each utility category.

The Local Water Utilities Administration (LWUA), has established industry averages among the water districts. The water districts are classified into categories such as, small, medium, big, large, etc. Certain standards or criteria are likewise set up as a basis of classifying the water district, for example, the present number of active service connections, number of employees, annual gross revenues, % of non-revenue water, etc.

The industry averages need to be updated every 2 or 3 years to come up with a useful, relevant and efficient performance indicator.

NWRB may adopt these KPIs to establish industry averages among the CPC grantees under its control or institute additional performance indicators that will suit the objectives of NWRB as a water regulatory agency.

The World Bank is presently conducting a study on performance improvement through the benchmarking of Small Towns Water Utilities. The project is a component of the Water Supply and Sanitation Performance Enhancement Project (WPEP). It involves other government agencies such as LWUA, NWRB, and DILG in the design of benchmarking for water utilities. The said study is on its final stage and has developed more or less fifteen (15) benchmarks among water utilities with 1,000 to 5,000 service connections. The indicators (see Table 14) that were developed for CPC grantees were coordinated with the World Bank team and likewise suggested to be consolidated by NWRB with the KPIs in the benchmarking study.

It is for this reason that the design of a benchmarking model (as part of the original TOR) was modified in order not to duplicate the on-going study of the World Bank. Instead, the Financial Expert improved and completely revised the present annual report format and likewise formulated guidelines in the preparation and submission of the report, in lieu of the design of a benchmarking model. A “Financial and Technical Data Sheet” (Item No. 18 of the Annual Report) was likewise developed for CPC grantees. This data sheet contains detailed information with regards to the financial and technical performance of the grantee. This will be used as a basis in preparing/setting-up industry averages among CPC grantees.

## 6.1.2 Annual Report of Water Utility Operators

### 1. Present Annual Report

The present Annual Report is prepared yearly by CPC grantees (authorized water utility operators) and submitted to NWRB within the first quarter of the following year. The report contains the following information and financial data:

- a. General Rules for Reporting
- b. History and Identity of Utility
- c. Balance Sheet
- d. Changes in Permanent Assets
- e. Income Statement
- f. Summary of Operating Expenses
- g. Summary of Operating Revenues
- h. Consolidated Statistics
- i. Record of Stockholders
- j. List of Personnel
- k. Depreciation Schedule
- l. Water Rate Schedule
- m. General Remarks
- n. Supervision and Regulation Fees
- o. Independent Accountant's Certificate
- p. Affidavit of the Operator or Chief Executive Officer of the Water Utility

Presently, the report serves only as a basis of computing the annual supervision and regulation fee (SRF). In accordance with the existing policy, the SRF is computed based on the net book value of property and equipment or from the paid up capital and these information can be taken only from the annual financial report (balance sheet portion). Some technical data in the report are also used as a reference during rate reviews conducted to support approval of requests for water rate increases. Only about 40% of grantees are religiously submitting the report.

It appears that the annual reports are submitted only as a sort of compliance. Some sections of the report serve no purpose to the agency or are not being used for monitoring purposes. Moreover, most of the pages are either left blank or not properly filled up. Other specific observations and comments include:

- In the Balance Sheet only the portions of "Property and Equipment" and "Capital Stock" accounts are being filled-up, other accounts such as current assets and current liabilities are left blank. This is because the financial statements may include other business operations, and the water system is just one of them.
- Most CPC grantees do not fill-up the information about the executive officers and the board of directors, while some grantees intentionally omit this section, thinking that these are confidential information.
- The Income Statement is not the usual form. It contains data which is supposed to be for the "Statement of Retained Earnings".
- The summary of operating revenues and operating expenses are prepared separately. These items are supposed to be incorporated in the Income Statement.

- The report also requires a list of stockholders including their corresponding investments and a list of all personnel and their salaries who are working with the water utility. These sections occupy a lot of space in the report but oftentimes are not filled-up.
- Some annual reports showed that the “Independent Accountant’s Certificate” is signed by an employee of the grantee instead of an External Auditor as required.
- The report does not contain financial and technical KPIs. The KPIs are very vital in financial and technical monitoring of water utilities.

## **2. Revised (Proposed) Annual Report**

The annual report was completely revised. General rules for submission have been formulated, while the implementing guidelines in the preparation of the report have been prepared. These are presented in Volume II. The revision was made to suit the regulatory requirements of the water tariff model and to allow NWRB to conduct and perform proper financial and technical monitoring of the water utilities.

The annual report may be prepared using MS Excel. (The existing annual report is pre-printed, staple-bound and manually prepared). The report was reduced to 11 pages (originally from 16 pages) but it already covers essential aspects of financial monitoring, benchmarking and the detailed requirements of the new water tariff model. It will be the basis of calculating key performance indicators and in formulating water industry averages for all water utilities covered by NWRB.

The report shall be filed and submitted annually and must be received at NWRB Office on or before May 31 of every year. For failure to submit or delay in the submission of the annual report, corresponding penalty charges will be enforced on the CPC grantee.

### **6.1.3 Operations Audit**

One effective measure of proper monitoring is the conduct of operations audit. The CPC grantees or water service providers presently under the control of NWRB shall be regularly monitored.

Operations audits are undertaken to determine the effectiveness and efficiency of an organization. Effectiveness refers to the degree to which the organization’s objectives are accomplished, whereas efficiency refers to the degree to which costs are reduced without reducing effectiveness.

#### **1. Coverage of Operations Audit**

Operations audit covers the following types of examination necessary for service providers:

- Policy Audit
- Personnel, Staffing and Organization Audit
- Fund Management Audit
- Collection Management Audit
- Marketing Audit

## 2. Indications that an Audit is Necessary

Before an audit is conducted, its objectives must be properly defined. Audits must not be literally interpreted as fault-finding but shall be construed as improving the operation and correcting whatever lapses are presently encountered by the water utility. In conducting an operations audit, the auditor/s shall properly plan the engagement. The audit coverage shall be determined and audit strategies shall be devised. There must be an "Audit Program Guide" to direct the auditors for a successful review/examination of the operation. Below are some indications that operation audits must be carried-out:

### a. Non-compliance with Contractual Obligations

- Inability to attain agreed levels of service, targets, KPIs and investment plan in their five-year investment plan
- Non-implementation of approved tariff
- Non-payment of SRF and AWC
- No fund reserves, etc.

### b. Weak Internal Control

- Non-submission of required financial statements
- Uncontrolled cash advances
- No separation between the custodial and recording functions among employees

### c. Poor Institutional Development

- Weak management
- High incidence of complaints from customers
- High NRW
- Low employee morale

After completion of the audit, an audit report shall be prepared and submitted to the proper authorities. The report shall contain all the findings and recommendations. Regular monitoring shall be done to check whether the recommendations are being implemented. This monitoring may be delegated to economic deputies to augment NWRB's limited manpower resources.

## 6.2 Financial Sustainability of Economic Regulation

Economic regulation is one of the main functions of NWRB (the other functions are policy formulation and coordination, and water resource regulation). Based on statistics for the past 2 years (years 2003 and 2004), the Economic Regulation unit had the least expense compared to the other functional units of the regulatory agency. About 20% (or P5.3 million) of the annual operating costs were spent for the economic regulation function representing personnel costs and share in other operation and maintenance costs. These can be seen in Table 15 on the personnel services and other operation and maintenance costs of NWRB per functional units for the period 2003 and 2004. On the other hand, total collections for Supervision and Regulation Fees (SRF) for the same period are P7.72 million and P9.15 million respectively.

This showed that the SRF can substantially sustain the operations of the economic regulation function and can even be used to improve or augment its workforce to attain the objectives of the regulatory agency. However, the SRF is also used to subsidize the other activities of NWRB that are not generating revenues. NWRB may have to restructure the SRF or change the thinking of CPC grantees as to how the



SRF is spent. This will affect how the CPC grantees will accept the tariff recommendation that they will have to spend for economic deputies, in addition to paying their SRF. NWRB should study this issue further. It would also be good if NWRB considers this in its own annual business plan.

Financial sustainability can easily be attained by improving collection efficiency and increasing its clients.

**Table 15 Personnel Services and Other Operation and Maintenance Costs**

For the Years 2003 and 2004  
In Thousand Pesos

	Total	Economic Regulation	Policy Formulation & Coordination	Water Resource Regulation	Support Services
<b>2003</b>					
Personnel Costs	13,823	5,188	6,580	6,766	7,057
Other O & M Costs	2,105	308	104	217	1,888
<b>Total</b>	<b>15,928</b>	<b>5,496</b>	<b>6,684</b>	<b>6,983</b>	<b>8,945</b>
% to Total		35%	42%	44%	56%
<b>2004</b>					
Personnel Costs	13,768	4,854	6,416	6,455	7,313
Other O & M Costs	2,556	506	193	359	2,197
<b>TOTAL</b>	<b>16,324</b>	<b>5,360</b>	<b>6,609</b>	<b>6,814</b>	<b>9,510</b>
% to Total		34%	41%	43%	60%

## 7 Capability Enhancement

### 7.1 Workshops / Training

As part of the TOR requirements of the project, 10 workshops have to be conducted by the consultant to enhance the capability of the NWRB staff in economic regulation. After an assessment of training needs related to economic regulation, a proposal for 10 workshops was submitted to NWRB in December 2004. After incorporating NWRB's suggestions for the 10 workshops, the schedule was finalized taking into consideration the availability of the intended participants. NEDA and MWSS participants were also invited to some of these workshops. The workshops were conducted from January to February 2005 and as of February 22, 2005, all of them have already been implemented as shown in Table 16 below.

**Table 16 Workshops Conducted**

Workshop	Dates Conducted	
	January	February
1. Leadership and Strategic Planning	13-14	
2. Economic Regulation	17	
3. Technical Workshop II	18	
4. Technical Workshop I	20	
5. Tariff Regulation Workshop I	24	
6. Rationalizing Field Investigation	31	
7. Tariff Regulation Workshop II		10-11 (A.M.)
8. Financial Regulation I		11 (P.M.)
9. Planning Work Flow		17
10. Financial Regulation II		22

## 7.2 Workshop Descriptions

In general, four groups of workshops/training sessions were conducted. These are (1) Planning, (2) Tariff Regulation, (3) Technical Regulation, and (4) Financial Regulation. The different workshop classifications are shown in Table 17.

### 1. Planning Workshops

These two workshops were basically requested by NWRB top management. Management felt that the gains resulting from this TA project may not be felt if there were no inputs from this project on leadership, preparation of divisional goals and on the CPC application process itself. These workshops targeted mainly the middle managers of NWRB and focused on demonstrating certain problem-solving techniques and on improving the interpersonal relationships among the participants.

**Table 17 Workshop Classification**

<b>Group</b>	<b>Workshop</b>
Planning	1. Leadership and Strategic Planning
	2. Planning Workflow
Tariff Regulation	3. Economic Regulation
	4. Tariff Regulation Workshop I
	5. Tariff Regulation Workshop II
Technical Regulation	6. Technical Workshop I
	7. Technical Workshop II
	8. Rationalizing Field Investigation
Financial Regulation	9. Financial Regulation I
	10. Financial Regulation II

### 2. Tariff Regulation

These three workshops provided the participants from NWRB, NEDA, and MWSS with actual hands-on experience in designing tariffs based on the five-year ROI methodology and also introduced the use of Excel software for use in the tariff design. Overview of the principles and practices of economic regulation were also taken up especially for those who have not attended any course on economic regulation.

### 3. Technical Regulation

These three workshops were developed not only to give NWRB's technical staff an overview of the technical aspects of economic regulation but also provided the participants with the "how to" solutions usually found in technical operations of small water utilities. Problems in securing data on non-revenue water, water quality, centrifugal pump design and water production were discussed and specific solutions were introduced. The overall aim of the workshops was to improve the participants' ability to secure these data in the field or to be able to determine the accuracy of the utility's data submitted.

### 4. Financial Regulation

These workshops covered the "why" and "how to" with respect to the monitoring of the CPC grantees over the five-year period. Key performance indicators were selected, followed by discussions and how these could be accessed via the reporting requirements of the CPC grantees. The revised operational and financial forms were

likewise presented and instructions on how these forms could be used for either monitoring or benchmarking were taken up.

### **7.3 Workshop Materials**

The training materials used during the various workshops are appended in Volume III of this report. Included are the programs for each workshop and the rationale of each workshop.

### **7.4 Other Capacity Building Approaches**

Other approaches were used as follows:

1. Intensive Technical Working Group (TWG) sessions dealing with the more complex and controversial issues such as methodology options, use of tariff models, assets subject to return issues, etc. In addition to their technical content, the TWG sessions developed analytical skills of problem identification, formulation of options and setting criteria for selection of the preferred options;
2. Development of trainor skills during the 4 consultation workshops conducted with NWRB clients;
3. On-the-job training in developing 5-year business plans with the utilities through the five pilot areas; and
4. Numerous coaching sessions on various topics affecting the staff's role as economic regulator.

## **8 Major Actions Taken**

### **8.1 Design of Tariff Methodology and Process**

#### **8.1.1 Consultation Workshops**

Four (4) consultation workshops were conducted by the NWRB and IDP on the tariff methodology issues. The objectives of these workshops were to get feedback from NWRB clients on problems and issues related to their tariff methodology and process as well as on the two tariff methodology options.

Table 18 presents the major results of the workshop, while Annexes 3 to 6 detail the comments from the participants.

#### **8.1.2 Technical Working Group (TWG) Sessions**

Three (3) TWG sessions were conducted in October and November with all the five staff (including the OIC, Water Utilities Division) involved in tariff review to discuss various issues and problems relating to the tariff methodology. The first session focused on the Proposed Tariff Model, and the second and third sessions on Tariff Methodology Options. The output of these discussions formed one of the bases for the revised tariff methodology. Refer to Annex 7 for an appreciation of these sessions.

**Table 18 Highlights of Stakeholders' Workshops**

Workshop No.	Venue, Date	No. of Participants	Major Comments
1	Metro Manila Sept. 30, 2004	22	<ul style="list-style-type: none"> <li>• One year statement does not reflect average operating expenses</li> <li>• Future improvements must be considered</li> <li>• No feedback on submitted annual reports</li> <li>• No definite time frame in approval of tariffs &amp; permits</li> </ul>
2	Cebu City Oct. 8, 2004	24	<ul style="list-style-type: none"> <li>• How to treat donated capital assets</li> <li>• Last year statements not reflecting present financial position</li> <li>• Too much documentation</li> <li>• Delay in application processing</li> </ul>
3	Metro Manila Dec. 2, 2004	20	<ul style="list-style-type: none"> <li>• Discounted Cash Flow hard to explain; what if inflation goes higher</li> <li>• How to have fund for replacement</li> <li>• Hearing process should be shortened</li> </ul>
4	Cebu City Nov. 26, 2004	21	<ul style="list-style-type: none"> <li>• Problem in preparing business plan</li> <li>• Problem in agreeing on levels of service</li> <li>• 5-year validity of CPC and water tariff</li> <li>• Appraisal of assets</li> </ul>

### 8.1.3 Comments from NEDA Board Member

It is the practice of NWRB that prior to Board approval of any proposed tariff, the analysis is sent first to the NEDA board member for final review. With this practice in mind, a memo was sent to the NEDA representative<sup>21</sup> of the NWRB which provided a briefing of the Tariff Methodology Options and Proposals. NEDA provided their comments and suggestions to improve the methodology further. Refer to Annex 8 for the NEDA comments.

### 8.1.4 Securing Board Approval of Revised Tariff Methodology

To secure clearance and directions, NWRB management felt that prior to the consultant finalization of tariff guidelines, the proposed tariff methodology should be presented to the NWRB Board. With the endorsement of management, the consultant presented to the Board the proposal for the revised 5-year ROI tariff methodology in a NWRB Board Meeting on January 14, 2005. The Board unanimously approved the new methodology.

## 8.2 Tariff Setting and Regulatory Guidelines

The guidelines were presented in the Tariff Setting II and Financial Regulation I Workshops for comments prior to being finalized. After finalization, the consultants presented the Guidelines to NWRB on March 21, 2005 for their approval. The NWRB Board will make their final deliberation in April 2005.

<sup>21</sup> Asst. Director General R. Reynoso and Director Quitariano

## **8.3 Institutional and Legal Aspects**

### **8.3.1 Capacity Building Workshops**

After a memo on the proposed workshops based on the initial training needs assessment was approved by NWRB management, the workshops were conducted from January to February 2005. As of February 22, 2005, all of the ten workshops have been conducted.

### **8.3.2 Legal Recommendations**

All of the legal issues discussed herein together with their recommendations were forwarded through a memo to NWRB management for their comments and/or appropriate action.

### **8.3.3 Revenue Enhancement**

1. The Consultant initiated and attended an NWRB-Land Bank meeting on November 23, 2004 to discuss how Land Bank can be tapped to provide on-line services for NWRB clients in the provinces. Land Bank is still studying NWRB's proposal.
2. The consultants have attended meetings held between officials of the Cooperative Development Authority (CDA) with the objective of assisting NWRB in getting the water cooperatives under its regulatory regime. Two fora were conducted by NWRB with the water cooperatives with the consultants participating heavily in the fora. Refer to Annex 9 for a typical forum program.
3. An updated master list of other possible clients (villages, townhouses, condominiums) was secured from the HLURB and was given to NWRB for their appropriate action. Similarly, a list of resettlement areas was secured from the National Housing and transmitted to NWRB.
4. The consultants have initially met with the LWUA chairman to discuss the possibility of an MOA placing RWSA's under the regulatory regime of NWRB. The initial response was promising but NWRB has to follow this up with LWUA.
5. The consultants likewise assisted NWRB in securing a master list of corporate water drillers from the Securities and Exchange Commission (SEC).

### **8.3.4 Efficiency Measures**

Discussions were held with top officials of NWRB, notably Atty. Nathaniel Santos (NWRB Deputy Executive Director) regarding various reforms which could improve the operations of NWRB which may be done in-house without any approval requirement from any external agency. Discussion topics covered area teams or responsibility centers, hiring of lawyers, review of the current performance evaluation system and shortening of the application and hearing process.

### **8.3.5 Briefings**

Several briefings were conducted to keep NWRB top management and ADB informed about the progress of the project and the issues that need to be resolved:

1. Briefing conducted for NWRB's Executive Director and his Deputy on November 15, 2004 on the proposed tariff methodology options
2. Briefing conducted on November 18, 2004 for the NWRB and ADB on the Inception Report initial findings
3. Briefing on the Midterm Report conducted December 13, 2004 for the NWRB's Executive Director and his Deputy
4. Briefing on the Midterm Report conducted on February 17, 2005 for ADB

## **9 Conclusions and Recommendations**

### **9.1 Tariff Methodology**

The project has assessed the weaknesses and strengths of the current tariff methodology of NWRB and has proposed major modifications. The result was a 5-year ROI tariff methodology which was approved by the NWRB Board in January 2005. Guidelines for the implementation of the new methodology have also been prepared taking into consideration service levels, affordability, rate structuring and other economic regulatory principles. The proposed tariff methodology has been tested and shows that it can be used regardless of the different characteristics of water utilities.

### **9.2 Tariff Regulation**

Previously, there has been minimal regulation after tariff approval. Under the proposed methodology, there will be a compulsory tariff review to check ROI and a system of disallowances/upward adjustments to ensure that commitments are met.

### **9.3 Financial Monitoring**

Guidelines have also been prepared on tariff regulation such as performance monitoring of utilities via key performance indicators and their financial statements. NWRB now has a procedure to follow in evaluating past performance and how this past performance will relate to future tariff levels. A benchmarking database is being developed under World Bank funding which will be useful in assessing past performance of utilities. The format of the utility Annual Report has been redesigned to make it more relevant to the agency needs.

Financial sustainability of economic regulation can be ensured by improving collection efficiency and increasing clients.

### **9.4 Tariff Process**

To shorten the tariff review processing time, NWRB should implement the CPC/rate review process which has been developed by its staff with assistance from the consultant. Features of the improved process are (i) to conduct an initial tariff review to be done simultaneously with the publication of the proposed tariff, (ii) to set a deadline for the initial review to be completed before the scheduled hearing date so any lacking data can be submitted sooner, and (iii) to use economic deputies at the

option of the utility. NWRB could accredit several NGOs, or auditing, accounting or management firms or water districts as economic deputies that could provide tariff formulation or review services to NWRB's clients particularly in the Visayas or Mindanao areas.

## **9.5 Stakeholder Participation**

The Project has demonstrated the effectiveness of involving all the stakeholders in problem analysis and formulation of recommendations. The new tariff methodology was finalized after a series of technical working group sessions with NWRB staff and four consultation workshops with CPC grantees with NEDA, COA, LWUA, DOJ and MWSS participation. The recommendation formulated was accepted by all stakeholders as proven by the NWRB Board approval of the new methodology in January 2005.

## **9.6 Institutional Reforms / Capacity Building of NWRB**

Various activities were undertaken during this project to strengthen the capacity of NWRB as the economic regulator in the water sector, with the aim of preparing them to better handle their regulatory function in the sector.

### **1. Workshops / Training**

Ten workshops will have been conducted in economic regulation. Five of the workshops familiarized the participants with the new tariff methodology and financial regulation; two covered technical topics dealing with utility operations water quality and well drilling; two covered forms and process improvement and one dealing with leadership for all the NWRB managers. The workshops were effective in introducing the revised tariff methodology in general and in providing hands-on training for the tariff division staff, in particular. All in all, about 40 NWRB participants benefited from the workshop. Refer to Annex 10 for a summary of the workshop evaluation.

### **2. Operational Assistance**

During the consultants' stay at the NWRB office, there has been daily interaction and regular coaching sessions with several NWRB managers and staff requesting for assistance in various operational activities of the agency, such as dealing with subordinates and peers, review of the implementing rules and regulations provisions, setting up responsibility centers, etc.

### **3. Process and Form Modifications**

Several forms being utilized by the agency were redesigned by NWRB staff themselves after an assessment that the forms could be improved. The forms modified were the CPC Application Form, Utility Inspection Report Form and the Application for Water Permit. The NWRB staff modified the forms with the consultants acting as resource persons. Some of these revised forms are already being used by the agency.

The process for CPC review was also undertaken by the NWRB staff with guidance from the consultant. In this exercise, even the Deputy Executive Director was involved in problem solving.

The forms for financial monitoring have been revised by the consultant with inputs from the NWRB staff and its clients. Although the number of pages was condensed from 16 to 11 pages, the new forms lend themselves to a thorough financial and

operational analysis of the utility as well as enable NWRB to set up industry averages for its various clients.

#### 4. Deputized Economic Agents

The use by NWRB of deputized economic agents has been recommended to enable the CPC grantees to have a professional review of its proposal prior to publications. This practice will also lessen to some extent the workload of NWRB with respect to tariff reviews. This recommendation was well received by NWRB management although admittedly, some financial and technical assistance to NWRB is still necessary before this recommendation can be implemented.

#### 5. Revenue Enhancement

##### a. Potential Client Identification

The consultant was able to identify and provide NWRB a list of potential clients from the HLURB (subdivisions, townhouses), CDA (water cooperatives), and the National Housing Authority (settlement areas). As a result of these, two fora were conducted with the water cooperatives wherein NWRB was able to provide information to about 90 water cooperatives the advantages of being under NWRB's regulatory regime. The consultant was also able to assist NWRB in securing from the Securities and Exchange Commission (SEC) a list of corporate drillers which should be registered with the agency.

NWRB should strive to expand its present 327 client base which as of September 2004 shows a potential of around 1,800 private utilities. An increased revenue base vis-à-vis collection and remittance to the National Treasury should also improve its chances of being able to negotiate for a bigger budget.

##### b. Collection Efficiency

The consultant also assisted NWRB in initiating discussions with Land Bank on the possibility of inter-branch transfer of collections from NWRB's clients. Although still under study by Land Bank, this could result in better collection efficiency for the agency.

#### 6. Legal Issues

Several legal recommendations were given by the consultant to NWRB management to strengthen its regulatory jurisdiction and enforcement capability within the sector. The recommendations are currently under review by management, as follows:

- a. Issuance of a set of rules and regulations to implement fines, injunctions, criminal prosecution provided for by law and specifying the circumstances under which a particular toll is to be utilized to enforce its orders, decisions or resolutions.
- b. Review of the penalties and fines for purposes of determining their efficiency as a deterrent to commission of prohibited acts or omissions.
- c. Incorporation in the CPC of certain conditions (audit, service level, reporting requirements, etc.) prior to issuance of the certificate.
- d. Renaming of NWRB into National Water Regulatory Board.



## **9.7 Capacity Enhancement for CPC Grantees**

This project has to some extent provided some capacity enhancement activities to some of NWRB's clients. These were done primarily through:

1. Direct consultation with the five pilot utilities. This provided on-the-job training for the staff of pilot utilities who learned directly from the consultant, various aspects of utility planning, operations and financial reporting.
2. Consultation workshops with about 35 utilities and about 90 water cooperatives through which service providers were provided inputs on asset management and business planning and principles of tariff formulation.
3. Provision of tariff setting and regulation manuals to NWRB for use by its clients.

## **9.8 Critical Next Steps**

NWRB's mission is:

“to effectively formulate policies, regulate water use and allocation and expand the delivery of water services through well coordinated, sustainable and efficient systems responsive to the needs of national development.”

To ensure the attainment of its mission, NWRB should undertake the following steps and implement the recommended action plan. The steps that NWRB should undertake are the following:

1. Seek approval of the Guidelines by NWRB Board, and take necessary actions to comply with other legal requirements such as public hearings and publications.
2. Maintain the momentum that this project has created with respect to the revised tariff methodology and financial regulation. NWRB should pursue vigorously its request for restructuring or organizational expansion with DBM or through an EO issued by the President herself. While NWRB has accepted the rationale of the proposed changes, it is also felt NWRB will have difficulty in reviewing tariff applications and monitoring the performance of all utilities under its area of responsibility considering its present financial resources and staff, hence the need for the organizational expansion.
3. Seek further assistance from external support agencies in setting up the initial systems in tariff review, additional formal workshops on the implementation of the guidelines and in accrediting and training economic deputies.
4. Take positive action on legal recommendations to strengthen NWRB's enforcement capability.
5. Develop benchmarks for various types of water service providers.

## 9.9 Recommended Action Plan

Following is the timetable for the recommended action plan.

**Table 19 Action Plan**

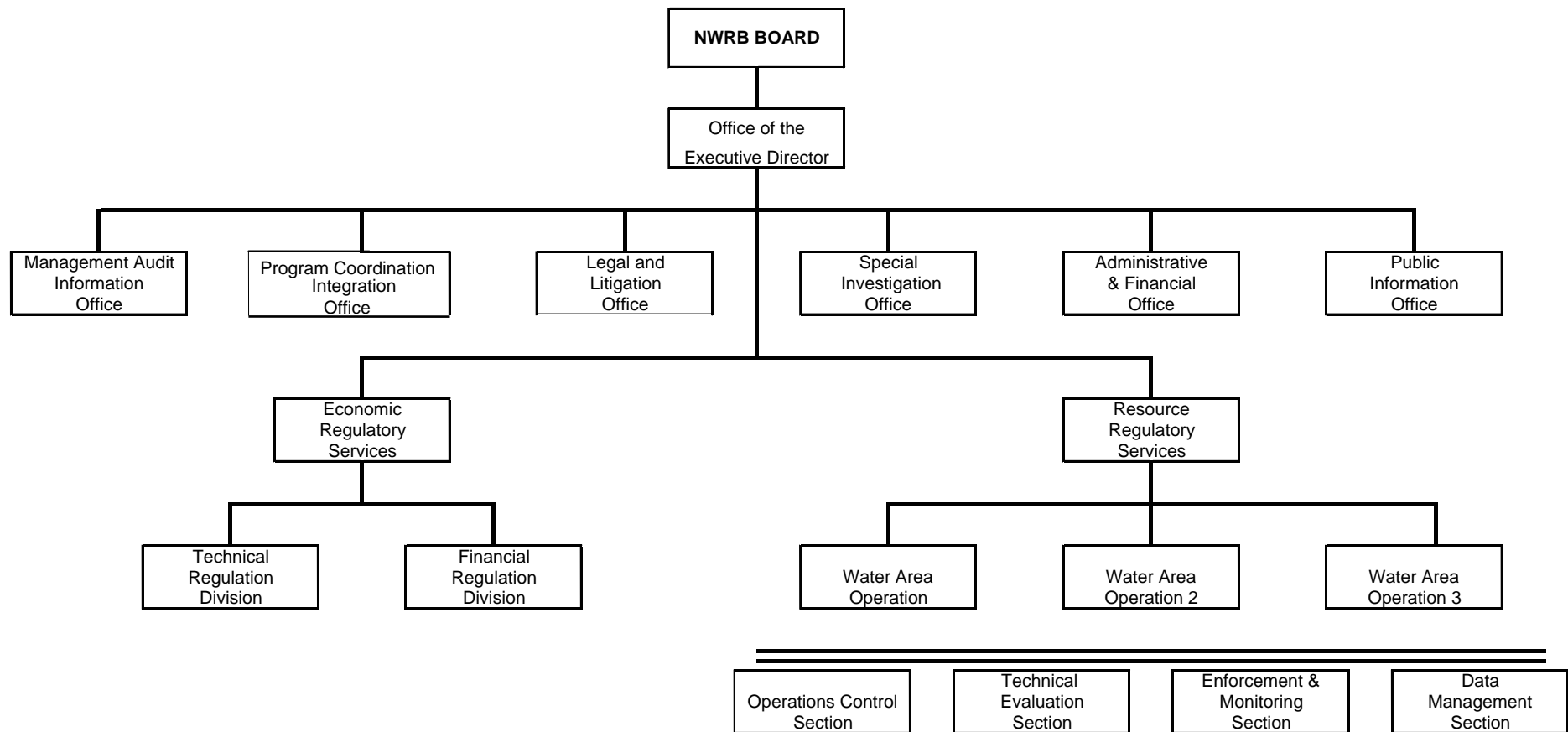
	2005				2006				2007			
	1	2	3	4	1	2	3	4	1	2	3	4
1 Guidelines Approval and Dissemination of Primers	■		■									
2 Reorganization of NWRB		■	■	■								
3 Accreditation and Training of Economic Deputies			■	■	■							
4 Board Approval and Public Hearing of Legal Recommendations				■	■							
5 Trial Run of New Tariff Methodology Including Training of Additional Staff and Equipment Procurement			■	■								
6 Conducting of Workshops to CPC Grantees on Tariff Guidelines				■	■			■	■			
7 Implementation of New Tariff Methodology					■	■	■	■	■	■	■	■
8 Formulation of System for Benchmarking for Various Types of Service Providers				■								
9 Data Collection and Processing to Update Benchmarks					■	■	■	■	■	■	■	■

## 10 Lessons Learned

These are the lessons learned from the project:

1. Involvement of the various stakeholders, i.e., CPC grantees and other national bodies in problem-solving, was an eye opener for NWRB top officials. During the various workshops/consultations held during this project, NWRB and the consultants had an easier time developing solutions as some of them came from the clients themselves. This enabled NWRB to increase its client base (as in its dialogue with CDA and the Cooperatives). It was also during these forums that these CPC grantees came to learn of NWRB's constraints and led to better appreciation of NWRB's efforts.
2. A regulatory body which has weak enforcement of its rules, orders or decisions will, in the long run, be largely ignored by those it seeks to regulate. Those following its rules find themselves to be in the minority, hence feel "persecuted" since the vast majority which do not comply with the laws are not penalized. The same observation can be said for an agency with limited staff and financial resources and does not have its presence felt at the regional levels. It will be perceived to be an agency which does not have government support. In the end, it will not be able to recruit or even retain capable staff which will aggravate further its weak enforcement capabilities.

### Annex 1. Proposed Organizational Structure



## Annex 2. Functions of NWRB's Deputized Agents

- A. DPWH District Engineers, NIA Provincial Irrigation Engineers
1. Process, investigate and report with recommendations on the water permit applications in accordance with the pertinent provisions of the Water Code and the Implementing Rules and Regulations (IRR).
  2. Investigate Water Right cases referred to them by NWRB.
  3. Execute Board Orders, Decisions, Rulings, Writ of Executions and the likes referred to them for appropriate action.
  4. Remit to NWRB filing fees in accordance with Memo Circular No. 8 Series of 88, seeing to it that the Postal Money Orders remitted had not expired or had not become stale.
  5. Make continuing inventory of different users of waters especially for fishponds and commercial/industrial purposes within its respective jurisdiction.
  6. Render semestral progress reports to NWRB stipulating the activities performed for the period within fifteen (15) calendar days after the end of each semester in accordance with the NWRB format.
  7. Perform such other related activities as may be specifically assigned to it in accordance with the Water Code, IRR and other related statutes.
- B. Water District General Managers
1. To accept, process, investigate and make recommendation on water permit applications on sources located within the territorial jurisdiction of the Water District.
  2. To monitor drilling of wells and other water resources development activities in your area for conformance with the provisions of the Water Code and the rules and regulations of the Water Districts as approved by NWRB.
  3. To coordinate with the Officers of DPWH-DE and NIA-PIO and other concerned agencies for the orderly and timely completion of necessary field activities related thereto.

## Annex 3. Manila Consultation Workshop I

### Excerpts from the Proceedings of the First Stakeholders' Workshop REVIEW OF CURRENT PRACTICES

September 30, 2004

DCIEC Bldg., NIA Compound, EDSA, Quezon City

#### 1. Attendance

Twenty-one (21) stakeholders coming from 12 private water utilities attended the workshop representing subdivision-homeowners, subdivision-developers, subdivision-resettlement (LGU), operators, peddlers, locators, and cooperatives. Refer to Section 8 for the list of attendees.

Five (5) officials from NWRB attended including the Executive Director and Deputy Executive Director.

#### 2. Project Objectives

After the usual invocation and welcome address, the Project Team Leader, Mr. A. De Vera presented the objectives of the project, one of which is to identify issues relating to tariff setting and monitoring by NWRB and to introduce institutional reforms to strengthen the capacity of NWRB as the economic regulator in the water sector. Surfacing of problems and issues from the stakeholders' side with respect to tariff setting was likewise done during Mr. De Vera's session.

#### 3. NWRB as Regulator

After the welcome address as given by the Executive Director, Mr. Ramon Alikpala, Deputy Executive Director Atty. Nathaniel Santos familiarized the body about NWRB, its board composition, the mandate, and its being a resource and economic regulator. Also discussed were some laws, issuances and Executive Orders related to NWRB's mandate.

#### 4. Existing Tariff Methodology

Ms. B. Juarez, Officer-In-Charge, Water Utilities Division, illustrated the existing tariff methodology used by the NWRB. The Return-On-Investment (ROI) and Break-Even methods were explained including the relevant factors to be considered in establishing the computation for the each method. She also explained the power cost adjustment factor. An open forum followed and the following issues were raised:

- Amount of penalty is very high compared to the amount subject to penalty.
- Water utility is in favor of raising the amount of the dues, instead of the penalty.
- Waiver of penalty, especially if the applicant is voluntarily coming forward to be regulated.
- Provisional authority if possible to be granted, while waiting for approval of tariff.
- Filing of application through the internet.

## 5. Problems and Issues Raised

The stakeholders were given the chance to bring up their concerns about NWRB, as their regulatory body. To recognize the problems / issues without difficulty, major concerns were divided into two parts, namely:

- a. Problems / Issues related to tariff
  - Methodology
  - Procedure
  - Monitoring
- b. Factors that a new methodology should consider.

The following concerns surfaced during the workshop:

### On Tariff Methodology

- Limited coverage on setting of parameters in computing tariff;
- Low rate of return which is not equitable to the cost of money invested ;
- Recovery of investment not included even if the occupancy is less than 70% (break-even method);
- The given years for useful / service life of assets is quite a long period;
- The requirement of submitting one year financial statement does not reflect average operating expenses;
- Last year's financial statement does not reflect present financial position;
- Power Cost Adjustment (PCA) applications may not be consistent with the present power rate due to time lag;
- To consider more items in the property and equipment in service;
- Provisions for maintenance and future improvements must be considered; and
- Donated property and equipment in service should be treated differently.

### On Tariff Procedure

- No definite time frame in approval of tariff and water permits;
- Requirements such as results of water test have to be redone due to time lag;
- Incurring losses while application is still in process;
- To add PCA on checklist;
- To consider water source depletion;
- Water rates have prior approval of members (for homeowners); and
- Too many requirements

### On Tariff Monitoring

- Lacks police on illegal operators;
- No feedback on submitted annual report;
- Field monitoring is not regularly done;

### On What Factors a New Methodology should consider

- Faster/ definite processing time;
- Less requirements for application;
- Standardized accounting procedure;
- Present guidelines in computing tariff;
- To provide adjustment formulas on power, chemical, labor and foreign exchange whenever there are abrupt increases;
- To provide provisional approval in case decisions takes longer;

- To increase ROI from 12%-15%;
- To consider the use of Internal Rate of Return (IRR) that considers the time value of money invested in the business;
- Analysis should be multi-year, at least (5) years to reflect a reasonable basis for tariff increases;
- Tariff adjustments should include all operating costs including SRF, taxes and licenses;
- In determining the SRF, the replacement cost of property and equipment instead of the net book value should be considered;
- Provide incentives to operators complying the law;
- Provide details on inclusions/exclusions on revenues and expenses in determining return or working capital computation;
- Provide separate standards/guidelines for different level of service.

#### On Issues Raised During the Open Forum

- Amount of penalty is very high compared to the amount subject to penalty. Water utility is in favor or raising the amount of the dues, instead of the penalty.
- Waiver of penalty to be granted, especially if the applicant is voluntarily coming forward to be regulated.
- Provisional authority if possible to be granted, while waiting for approval of tariff
- Filing of application through the internet

#### 6. Tariff Regulation Concept

Concepts and goals related to water tariff setting was presented by Ms. E. Balucan, the Tariff Specialist. Good governance, financial sustainability, distributive justice, economic efficiency and fairness are the main objectives in shaping the reasonable tariff.

#### 7. Assessment

The attending stakeholders appreciated the concept of involving them in the process of enhancing NWRB's existing practices.

#### 8. List of Participants

<u>Name</u>	<u>Organization</u>
1. Jose Cochico	Philam Village Homeowners Associations, Inc.
2. Marissa Amador	Philam Village Homeowners Associations, Inc.
3. Mel Buera	Philam Village Homeowners Associations, Inc.
4. Marie Villanueva	Moonville Subdivision Homeowners' Association
5. Inocencio Pascua Jr.	Moonville Subdivision Homeowners' Association
6. Jess Delarmente	Moonville Subdivision Homeowners' Association
7. Cathy Bachoco	Bonifacio Water Corporation
8. Donald Palomar	Bonifacio Water Corporation
9. Joey Campos	Adon Development Corporation/ Metroplex Management and Services Corp.
10. Edna Velmonte	Adon Development Corporation / Metroplex Management and Services Corp.
11. Ernesto Bayubay	Adon Development Corporation / Metroplex Management and Services Corp.

12. Joseph Bactol	The Alexandria Condominium
13. Lony Capellan	Bahayang Pag-asa Waterworks, Inc.
14. Olive Mercado	Trilan Waterworks, Inc.
15. Juanito Aguilar	Palmera Homes / Central Watersystems, Inc.
16. Fe Rebancez	Palmera Homes / Central Watersystems, Inc.
17. Celso Parba	Parba Water Supply
18. Celia Amurao	Sta. Lucia Development Corp. / Carlsons Dev. Corp.
19. Eduardo Escoto	Sta. Lucia Development Corp. / Carlsons Dev. Corp.
20. Art Estagle	Filinvest Land, Inc., Alabang
21. Lourdes Pechuela	Lourdes Pechuela (Single Proprietor)
22. Crisanta Marcelino	NWRB Staff



## Annex 4. Cebu Consultation Workshop I

### Excerpts from the Proceedings of the Second Stakeholders' Workshop REVIEW OF CURRENT PRACTICES

October 8, 2004

Golden Peak Hotel, Cebu City

#### 1. Attendance

Twenty-four (24) participants coming from 14 private water utilities attended the workshop. Each one represents the manner of business they operate, e.g. subdivision-homeowners, subdivision-developers, subdivision-resettlement (LGU), operators, peddlers, locators, and cooperatives. Refer to Section 8 for the list of attendees

Three (3) officials from NWRB attended, including the Deputy Executive Director.

#### 2. Project Objectives

After the usual invocation and welcome address, the Project Team Leader, Mr. A. De Vera presented the objectives of the project, some of which are to identify issues relating to tariff setting and monitoring by NWRB and to introduce institutional reforms to strengthen the capacity of NWRB as the economic regulator in the water sector. Surfacing of problems and issues from the stakeholders' side with respect to tariff setting was likewise done.

#### 3. NWRB as Regulator

Deputy Executive Director Atty. N. Santos familiarized the body about NWRB, its board composition, the mandate, and its being a resource and economic regulator. He also discussed some laws, issuances and Executive Orders related to NWRB's mandate.

#### 4. Existing Tariff Methodology

Ms. B. Juarez, Officer-In-Charge, Water Utilities Division, illustrated the existing tariff methodology used by NWRB. She elaborated on the Return-On-Investment (ROI) and Break-Even methods including the relevant factors to be considered in establishing the computations for the each method. She also explained the power cost adjustment factor. An open forum followed and the following issues were raised:

- Basis for charging commercial consumers twice the rate of residential consumers.
- There is a case of a bulk water sale to a municipality, who subsequently sells water to consumers. Who should obtain a CPC, the first seller only, or both?
- If the tariff implemented by a water utility exceeds the 12% ROI, should it refund the excess?
- Power cost adjustment (PCA) to be implemented automatically.
- NWRB has no way of punishing or not doing something to penalize those utilities who do not obtain a CPC.
- Holding the public hearing on site.

## 5. Problems and Issues Raised

The stakeholders were given the chance to bring up other concerns about NWRB, as their regulatory body. To recognize the problems / issues without difficulty, major concerns were divided into two parts, namely:

- a. Problems / issues related to tariff
  - Methodology
  - Procedure
  - Monitoring
  
- b. Factors that a new methodology should consider

The following concerns surfaced during the workshop:

### On Tariff Methodology

- Limited ROI
- No specific guidelines on water sources e.g. well or spring
- Exclusion in tariff setting of other revenues or receipts not related to water operations
- How to treat donated capital/grants
- Inclusion in tariff adjustments of future developments/improvements
- Clarification in the establishment of the computation for depreciation expenses
- Rates not equitable to the cost of money invested
- CPC tariff rates way below the Water District's rate
- The requirement of submitting one year financial statements not reflecting average operating expenses
- Last year's financial statements not reflecting present financial position
- High SRF due to high net book value despite few service connections

### On Tariff Procedure

- Too much documentation
- Delay in processing of applications
- Ledgers not updated for payments thru mail
- No proper information / dissemination on new guidelines
- Very costly and time consuming application procedure

### On Tariff Monitoring

- Lack of personnel to monitor water utilities
- Delayed evaluation of annual report
- No billing statement sent and yet penalty is imposed
- No monitoring of illegal operators

### On Factors A New Methodology Should Consider

- Tariffs should be comparable to water districts
- Power rates adjustment should be included automatically
- Analysis should be multi-year, at least (5) years to reflect a reasonable basis for tariff increases
- Categorize water sources with respect to tariff computation
- Consider the quality of service by the operators

## On Issues Raised During the Open Forum

- Basis for charging commercial consumers twice the rate of residential consumers
- There is a case of a bulk water sale to a municipality, who subsequently sells water to consumers. Who should obtain a CPC, the first seller only, or both?
- If the tariff implemented by a water utility exceeds the 12% ROI, should it refund the excess?
- Power cost adjustment (PCA) to be implemented automatically
- NWRB has no way of punishing or not doing something to penalize those utilities who do not obtain a CPC.
- Holding the public hearing on site

### 6. Tariff Regulation Concept

Concepts and goals related to water tariff setting was presented by Ms. E. Balucan, the Tariff Specialist. She discussed the main objectives in shaping a reasonable tariff, which are good governance, financial sustainability, distributive justice, economic efficiency and fairness.

### 7. Assessment

The attending stakeholders appreciated the concept of involving them in the process of enhancing NWRB's existing practices.

### 8. List of Participants

<u>Name</u>	<u>Organization</u>
1. Ricardo Pacheco	A Brown Company, Inc.
2. Maxima Cristobal	A Brown Company, Inc.
3. Ramon Castro	Guindulman Ilaw Ng Buhay Water and Sanitation
4. Felix Licong	Guindulman Ilaw Ng Buhay Water and Sanitation
5. Amy Ypon	White Hills Subdivision
6. Cesar Cagalawan	White Hills Subdivision
7. Elmer Casinto	Catmon Water Cooperative
8. Andres Mollena Jr.	Catmon Water Cooperative
9. Antonietta Solante	Kauswagan Cooperative
10. Josephine Cabigas	Kauswagan Cooperative
11. Evelyn Aliporo	Agro-Macro Development Corporation
12. Angel Linus Yap	Agro-Macro Development Corporation
13. Emy Bustillo	Casuntingan Community Livelihood Multipurpose Cooperative, Inc
14. Rolando Ceniza	Casuntingan Community Livelihood Multipurpose Cooperative, Inc
15. Cirilo Manto	Casuntingan Community Livelihood Multipurpose Cooperative, Inc
16. Eliezer Sarmago	COWASSCO
17. Aquilino Revilla	COWASSCO
18. Remedios Alejandrino	Pueblo De Oro
19. Juanita Digal	Pueblo De Oro
20. Condrado Vitug	PARWASAI
21. Celestino Bustamante	PEO-PWDTF
22. Edna Aldea	Santos Land Development Corporation
23. Romeo Robles	Bohol Water Utilities
24. Mildred Agbay	GAMA Water Services

## Annex 5. Manila Consultation Workshop II

### Second Stakeholders' Workshop in Manila

DCIEC Building, December 2, 2004

#### Comments from Participants

##### Option 1 – Modified ROI Method

If this is the option to be chosen, does this mean NWRB will approve tariffs for 5 years?

→ Yes.

Previous assumptions do not necessarily reflect the reality. Like fully depreciated assets that are still in use because of upgrades continuously applied on them.

Why does tariff go down on years with low or no capital expenditure?

→ There is a big decrease in NBV because there is no additional investment on year 5 where tariff decreases.

##### Option 2 – Discounted Cash Flow

Both models will be using a five-year horizon. But they are good for stable economies. But what if inflation goes very high in a year.

→ NWRB allows for price adjustments

In both options are there levels of service?

→ Yes

COA has not yet audited any entity under NWRB. During evaluation, if based on levels of service there is excess, will this be also refunded?

→ Yes, they will be considered. There will be adjustments for the next 5-year period.

Regulator will be guided by “prudent” and “efficient” costs

Philam Homes inherited their system. It appears that the current break-even method is more applicable to them.

→ It's the same as

Can they continue to have sinking fund?

→ yes, as long as there are no oppositors.

A sinking fund should be proposed already at the beginning of the review period.

They may need to engage a consultant to properly fund their rehabilitation.

What if operations are performing very well, is there an incentive for the operator to retain the income?

→ There are 2 approaches to regulation:

- cost of service, where ROI is controlled;
- incentive regulation, where the factors that are controlled allow incentives to the operator. Example: price cap of P20/m<sup>3</sup>. This allows operator to cut down costs, because he can retain the higher income. But the technical data to be used needs to be accurate. This method

has more demands, and is in use in more advanced countries like the UK.

- Although we are using cost of service regulation, we can still have incentives. For example,
  - 95% collection efficiency target; if a higher efficiency is attained, it benefits the operator
  - 25% NRW target; if a higher NRW is attained, the operator is already punished.

There are about 200 water coops. The coops look at the methodology as a consumer, not an investor.

How would you approach a well that dries up after 3 years? Would it affect the tariff? Is there a way to recover the sunk cost, in addition to funding a new well?

- You may ask for extraordinary tariff adjustment.

Does the DCF have a factor allowing for contingencies?

- It is not in the model, because it is a buffer. If it is a foreseeable expense at year 0, then include it. But otherwise, it is not factored in.
- Contingencies have to be strictly considered, because it may be subject to abuse.

It is not only the beauty of the formula that is good, but the important role of the regulator.

What if after the 5<sup>th</sup> year the utility does not go back to NWRB for a CPC validity extension, what tariff does it apply?

- We are synchronizing the CPC extension and the tariff review.

## **Session 4 – Financial Monitoring**

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### **Key Performance Indicators Presented**

For cooperatives, the closest ratio for the net income ratio is the patronage refund. There are about 30% of net surplus that goes to other forms of “refunds”. So which is the applicable ratio?

- Net income before patronage refund or net income after patronage refund

What purpose does the KPI serve?

- Some are used in projecting the required tariff. Like average consumption.

Cooperatives are mandated by law to earn at least 30% from their gross revenues. Would this affect the computation of their tariff?

- Tariff would be affected.
- For Coops, serving only their members, they are not covered by the 12% ROI requirement. But once they serve customers who are not members, they must comply with NWRB’s 12% ROI.
- For coops to be able to have funds for replacement/rehabilitation, they may maintain a sinking fund following NWRB’s existing regulation of 10% of gross revenues, with the cash account having the utility and the homeowners’ association as the co-signatories, and withdrawals from the cash account to be approved by NWRB.

## Other Comments / Suggestions on the Annual Report

Commercial – a business entity that can transfer the cost to its customers as part of their overhead cost.

### Session 5 – Other Issues

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Use of Land Bank for payment of fees and charges

- Some object to the idea because of long queues in the Bank
- But generally acceptable

For subcontractors doing preliminary review, there must be a ceiling on the fee.

- This is ruled by the market. NWRB cannot regulate the price.

Preliminary review

- can be an option, but not a requirement

How long will the proposed process take?

- Maximum of 6 months
- Reducing the process from 2 years to only one year, and requesting approval once in 5 years only, is already a big improvement

It is recommended that only NWRB technical reviewers do the review. It is faster if done by them, compared to engineers of DPWH.

If the purpose of the preliminary review is to shorten the process, they are 100% behind it. The self-imposed deadline is also very good.

It is the hearing process that takes long. This should be shortened.

### List of Participants

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<u>Name</u>	<u>Organization</u>
Ric Catabian	Pilar Waterworks Corporation
Celia Amurao	Calson Development Corporation
Analyn Rondez	Lago Waterworks
Arleen Mabale	BOT Center
Eduardo Escoto	Calson Development Corporation
Felix Abad	Partido Development Administration
Jose Cochico	Phil-Am Village Homeowners Association, Inc.
Art Estable	Filinvest Alabang, Inc.
Nelia Villeza	Commission on Audit
Illuminada Fabroa	Commission on Audit
Warly Pascua	Moonville Homeowners Association
Jess Delarmente	Moonville Homeowners Association
Steve Tauson	Office of the Solicitor General
Juanito Aguilar	Palmera Homes, Inc.
Arthur Mendoza	BF Homes, Inc.
Robert Campos	BF Homes, Inc.
Lony Capellan	Bahayang Pag-asa Waterworks, Inc.
Carlito Villanueva	Bahayang Pag-asa Waterworks, Inc.
Clint Cachuela	Local Water Utilities Administration
Roberto Villarroel	Cooperatives Development Authority

## Annex 6. Cebu Consultation Workshop II

Second Stakeholders' Workshop in Cebu  
Golden Peak Hotel & Suites, November 26, 2004

### Comments from Participants

#### Workshop Expectations

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- Speak now or forever hold your piece.
- Main objective of the workshop is to get reactions on methodology proposals.

#### Session 1 – Problem Analysis and Framework for Solutions

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Discounted cash flow – what will be the *cash requirements* during the next 5 years?

5-year CPC – There is no assurance that CPC will be extended at the end of 5 years, so the utility does not have an incentive to put up investments required to maintain the system.

- NWRB to disseminate reasons for not extending a CPC to assure applicants that CPCs are normally extended.

Business plan – may not be understood by small utilities

- There will be tools to help utilities and NWRB to adopt to the new system

Systematic planning is difficult to implement. Like a new pump that bogs down on year 2, necessitating to buy another new pump. Can this be explained to NWRB?

- Have more forums to discuss issues like this

Return is given for the utility operator's risk and cost of money.

Appraisal of assets – Will rate of return increase because of appraisal of assets?

- No, rate is till 12%, but the absolute values will be higher based on the higher appraisal value.

Agreement on Levels of Service – between operator and consumers is difficult to achieve. Let it be an agreement by the operator with NWRB, not with consumers.

Public consultation – who is the operator's public? Can Homeowners Association (HOA) officers represent the public or all the consumers?

- This needs a legal interpretation.

Salvage value – how is this calculated? Who provides the standard?

- Case to case basis, bring up with NWRB

Revenues subject to regulation - only these revenues should be the basis of calculating the regulated average water tariff.

#### Session 2 – Tariff Methodology Options

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What is the reference point for the rate of return?

- It can be the weighted average cost of capital (WACC) or the current 12% ROI adopted from a jurisprudence

Who will determine the rate of return?

- NWRB

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### Session 3 – Tariff Methodology Forum

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#### Modified ROI

- Easier to explain to consumers, HOA members

#### Discounted Cash Flow

- Present value has a formula in Excel, so it is easy to compute.
- But this is very difficult to explain to consumers.

#### Preferred Option: Modified ROI

#### Under the Discounted Cash Flow Methodology:

If intended investment for Year 3 for P200,000 was implemented in Year 4, or in Year 3 but at P300,000,

- ➔ there will be a corresponding adjustment in tariff computation at the end of Year 5

Will the 5-year plan already include the tariff increase required, including all the factors affecting them?

- ➔ Yes

#### Comment from a Developer (La Pacita)

- Cost of water system is not included in land development because it makes them not competitive with other developers.
- But how can NWRB determine if this is so? The burden of proof remains with the developer.
- So unless it can be proven otherwise, it will be assumed that the water system is part of land development.

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### Session 4 – Financial Monitoring

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#### Key Performance Indicators Presented

##### Marketing Effort

$$\begin{aligned} &\text{Average Consumption} \\ &= \frac{\text{Total Cu. M. Billed}}{\text{Total No. of Connections}} \end{aligned}$$

$$\begin{aligned} &\text{Annual Average Water Sales} \\ &= \frac{\text{Water Sales}}{\text{Total No. of Connections}} \end{aligned}$$

##### Profitability

$$\begin{aligned} &\text{Net Income Ratio} \\ &= \frac{\text{Net Income}}{\text{Operating Revenues}} \end{aligned}$$

##### LWUA Industry Averages:

Small WD	12%
Medium	17%
Large	14%
Very Large	18%
Average	14%



$$\begin{aligned} &\text{Rate of Return} \\ &= \frac{\text{Net Income}}{\text{Ave. Net Fixed Assets (refer to Tariff Methodology for definition)}} \end{aligned}$$

#### Cost Efficiency

$$\begin{aligned} &\text{Operating Ratio} \\ &= \frac{\text{Total O\&M Costs}}{\text{Operating Revenues}} \end{aligned}$$

$$\begin{aligned} &\text{Average Operating Costs} \\ &= \frac{\text{Operating Expenses}}{\text{Cu. M. Billed}} \end{aligned}$$

#### Collection Effort

$$\begin{aligned} &\text{On-Time Payment} \\ &= \frac{\text{Current Collections}}{\text{Current Billings}} \end{aligned}$$

$$\begin{aligned} &\text{Collection Efficiency, YTD} \\ &= \frac{\text{Total Collections YTD}}{\text{Total Billings YTD}} \end{aligned}$$

#### Production Efficiency

$$\begin{aligned} &\text{Non-Revenue Water} \\ &= \frac{\text{Water Produced} - \text{Water Billed}}{\text{Water Produced}} \end{aligned}$$

#### Personnel Management

$$\begin{aligned} &\text{Personnel Ratio} \\ &= \frac{\text{Active Service Connections}}{\text{No. of Employees}} \end{aligned}$$

### **Additional Ratios Recommended**

#### By Group 1

$$\begin{aligned} &\text{Profitability/Cu. m. Sold} \\ &= \frac{\text{Net Income (loss)}}{\text{Cu. m. Sold}} \end{aligned}$$

- Determines net income earned per volume sold

$$\begin{aligned} &\text{Average Salary/Employee} \\ &= \frac{\text{Total Salaries and Wages}}{\text{No. of Employees}} \end{aligned}$$

- Reveals if salaries are excessive or not compared to the average

$$\begin{aligned} &\text{Liquidly or Current Ratio} \\ &= \frac{\text{Current Assets}}{\text{Current Liabilities}} \end{aligned}$$

- Determines how liquid or how healthy a company is

Pump Efficiency

$$= \frac{\text{Power Consumed}}{\text{Production}}$$

- Determines kwh used/m3, shows efficiency of pump. The higher the efficiency, the lower the kwh used per cubic meter produced.

Power Cost/m3 sold

$$= \frac{\text{Total power cost}}{\text{m3 sold}}$$

By Group 2

Earnings per share

$$= \frac{\text{Net Income}}{\text{Total Shares}}$$

- very important for investors, shows if investor will invest or not in the company

By Group 3

Supply and demand

- Determines investments required to match the demand.

Population growth

**Other Comments / Suggestions on the Annual Report**

For utilities that have multiple business ventures, their financial statements should be by cost center.

But there will be a problem in filling up a Balance Sheet. A division or cost center does not have its own capital account. So they don't have paid-up capital, so that their SRF is based on property and equipment in service.

Recommendation: Have the financial reports by cost centers be audited, but the Balance Sheet will be for the entire company.

Will NWRB be revising the existing Annual Report?

- ➔ Yes, it will be revised, from the current 16 pages to about 10 only.

If possible, don't bind it, so that it can be typed or be computerized.

There are some items that are not applicable to all utilities.

How about circulating a diskette containing the Annual Report, and this will be the one to be sold to and used exclusively by grantees.

Diskette with formula can be circulated, but hard copy will still be submitted to NWRB together with the sworn statement on the correctness of data.

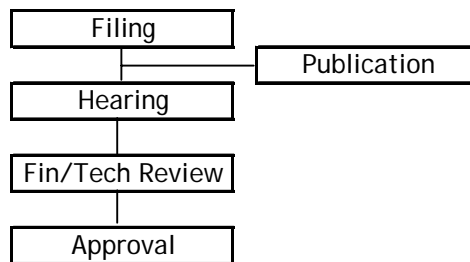
## Session 5 – Other Issues

On-line payment of NWRB fees with Land Bank of the Philippines will soon be implemented.

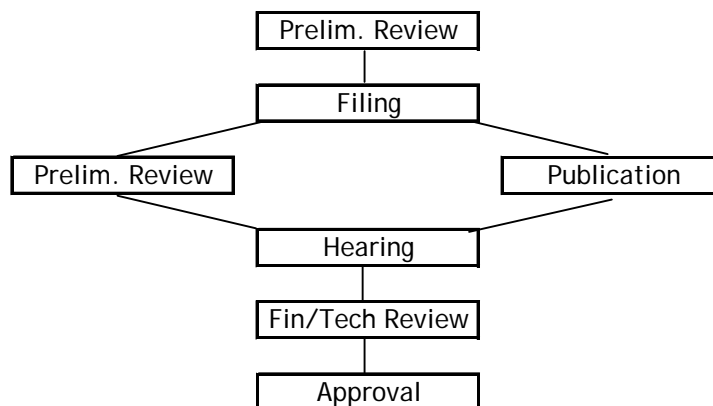
- Favorable to participants
- May it not happen that grantees are not sent bills and then penalized

Which is preferable: Land Bank, DBP or PNB? Land Bank because –  
Land Bank has the most number of branches  
Land Bank is depository bank of NWRB

Existing System for CPC Approval



Proposed System for CPC Approval



It has been observed that it takes a long time to process an application. But it may not be the evaluation but the legal process that causes the delay.

Can publication happen after the fin/tech review?

- ➔ No, because publication gives NWRB jurisdictional authority over the case.

Are applicants willing to pay for fees for the preliminary review?

Simplify hearing procedures, limit the issues to be discussed during the hearing, to hasten the process.

- ➔ Atty. Bobby Demigillo to make hearing rules

“If we do not sacrifice in the short-term, we will never succeed in the long-term.”

– Tony de Vera

## List of Participants

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<u>Name</u>	<u>Organization</u>
Felix Licong	Guindulman Ilaw ng Buhay Water & Sanitation
Ramon Castro	Guindulman Ilaw ng Buhay Water & Sanitation
Cristina Gomez	Kauswagan Cooperative
Jaime Chan	Casuntingan Cooperative
Ricardo Varquez	DAWASSCO
Lito Tajanlangit	Pilar Development Corporation
Elmier Casinto	Catmon Water Cooperative
Andres Mollena	Catmon Water Cooperative
Villanueva Cotejo	San Remigio Water Service Cooperative
Mera Kintanar	Helpmate, Inc.
Amy Ypon	White Hills Foundation, Inc.
Cesar Cagalawan	White Hills Foundation, Inc.
Edna Aldea	Santos Land Development Corporation
Conrado Vitug	Poblacion Asturias RWSA, Inc.
Eliezer Sarmago	Community Water & Sanitation Service Cooperative
Aquilino Revillas	Community Water & Sanitation Service Cooperative
Ernesto Gabuya	Cebu Holdings, Inc.
Remedios Alejandrin	Pueblo De Oro Development Corporation
Juanita Digal	Pueblo De Oro Development Corporation
Christine Escobilla	Bohol Water Utilities, Inc.
Conrado Melisimo	Bohol Water Utilities, Inc.

## Annex 7. Technical Working Group Meetings

### **TWG # 1. Proposed Tariff Model**

October 22, 2004

#### **Present:**

Belen I. Juarez	Edna Balucan
Maribel S. Nofuente	Leila Elvas
Crisanta I. Martelino	
Perlita R. Costales	
Cyrus S. Regidor	

#### **Topics Discussed**

1. **Introduction.** Ms. Balucan gave an introduction on one of the issues arising from the existing methodology which are being addressed by the proposed tariff model. The present methodology looks at only one year of operations of the applicant. The proposed methodology will allow the reviewer to look at five years of the applicant's operations and the resulting rates of return.
2. **Proposed Tariff Model.** The tariff model was presented by Ms. Elvas. The model is in an Excel workbook with different sheets. These sheets can be grouped as follows:
  - a. **Input Sheets** – This sheet contains cells (yellow shades) where data are to be inputted. These are:
    - 1) **OPENING.** This sheet contains data from the audited Income Statement and Balance Sheet of the operator during the last least two years.
    - 2) **TARIFF.** This sheet contains the proposed tariff and structure of the applicant operator.
    - 3) **CAPEX.** This sheet contains the proposed investments to be incurred by the applicant during the next five years, as well as the financing plan for these investments.
    - 4) **ASSUMPTIONS.** This sheet contains the assumptions and variables that will be used in calculating the projections. These assumptions can be grouped as follows:
      - Inflation
      - Balance sheet accounts
      - Terms of existing long-term loans
      - Terms of new loan
      - Income statement accounts
      - Supply and demand
      - Other assumptions
  - b. **Output Sheets.** These sheets are reports and intermediate sheets derived from the input sheets. These sheets are mostly composed of cells with formulas, with very few input cells that cannot be avoided.

These Output Sheets are as follows:

- Key Performance Indicators
- Income Statement
- Flow of Funds Statement
- Balance Sheet
- Borrowings

### 3. Issues Raised

Important issues that were raised were on the following:

- a. Assistance in filling-up input sheets. The Guidelines should be clear enough so that the applicant will need minimum assistance.
- b. Donated capital. These should not be subject to ROI, but to be depreciated also.
- c. Appraised assets. How should they be depreciated over the remaining useful life?

### **TWG # 2. Rate of Return**

October 29, 2004

**Held** at Consultants' Office at NWRB, 1:00-2:30 pm

#### **Present:**

Belen I. Juarez  
Maribel S. Nofuente  
Crisanta I. Martelino  
Perlita R. Costales  
Cyrus S. Regidor

Antonio de Vera  
Edna Balucan  
Leila Elvas  
Jocelyn Villamayor

#### **Topics Discussed**

The following is the outline of the topics discussed during this TWG session.

1. Tariff Setting Goals
  - a. Good Governance
  - b. Financial Sustainability
  - c. Distributive Justice
  - d. Economic Efficiency
  - e. Fair Pricing
2. Financial Sustainability – Tariff should cover all revenue requirements (RR), expressed as:  
$$RR = (\text{RoR on Asset}) + \text{Economic Depreciation or rehabilitation} + \text{OPEX}$$
3. Return on Assets
  - a. Regulatory Asset Base – determinants are:
    - Assets in service, and
    - Assets for which operator incurred cost of money and risk
  - b. Valuation of Asset Base
    - Net Book Value of Assets
    - Written Down Historic Costs Escalated by CPI
    - Fair or Present Value or Written Down Replacement Cost
    - Economic Value of Assets
    - Modern Equivalent Asset Values
    - Depreciated Optimized Replacement Costs (DORC)
  - c. Asset Base Formula
    - NWRB: Average of beginning + ending assets + 2 months working capital
    - Meralco:

- o Net average investment method
  - o Number of months use method
  - o Average investment method
  - o Simple average
- d. Rate of Return Formula
  - Rate of Return Regulation or Cost of Service Regulation
  - Performance-Based Regulation
  - Combination of the Above
- e. Applicable to Which Utilities?
- f. Reasonable Return.
  - Tests for determining or measuring rate of return:
    - o Cost of attracting capital;
    - o Maintenance of the integrity of investment or preventing flight of capital; and
    - o Comparable earnings for comparable risks
  - Sample returns presently used
    - o 12% ROI
    - o Weighted average cost of capital (WACC)

### Notes from Discussions

1. The review of methodology is evolving. These Technical Working Group (TWG) meetings are part of this evolution, including the feedback from NWRB staff.
2. Return on assets. This measures financial sustainability.
3. Economic depreciation. This is intended to maintain assets to be in the same condition as it was at the start of the regulatory period.
4. Homeowners' Associations. Assets turned over by the developer may have an ROI, but it is better to have a sinking fund.
5. Assets entitled to rate of return depends on where funds came from:
  - Additional equity                      Yes
  - Loan                                      Yes
  - Internal cash generation          No, the utility has already profited from it.
6. Management contract is entitled to Management Fees, but not to return.
7. ROI on water utilities
  - Applicable to a CPC grantee / public utility
  - Not applicable to the agent of the PU (MWSS-RO case)

### TWG # 3. Tariff Methodology Options

November 8, 2004

**Held** at Consultants' Office at NWRB, 1:00-2:30 pm

**Present:**

Belen I. Juarez  
Maribel S. Nofuente  
Crisanta I. Martelino  
Perlita R. Costales  
Cyrus S. Regidor

Antonio de Vera  
Edna Balucan  
Leila Elvas  
Jocelyn Villamayor

**Topics Discussed**

1. Tariff Methodology Concepts
  - a. Review of Tariff Methodology and Tariff Regulation
  - b. Methodology Options
    - Option 1 – Existing
    - Option 2 – Modified ROI Method
    - Option 3 – Discounted Cash Flow Method
  - c. Tariff Regulation Approach Options
    - Option A – Existing
    - Option B – Cost of Service
    - Option C – Incentive Regulation (Price Cap)
2. Illustrative Example Using Rate Model

**Notes from Discussions**

1. Under the modified methodology, Levels of Service for the tariff to be implemented will be included in the CPC approval.
2. Assets funded by a loan are entitled to return by including its debt service (principal + interest) in the revenue requirements.
3. The following is a comparison of how revenue requirements are computed under the existing ROI method and Discounted Cash Flow method:

Existing ROI Method	Discounted Cash Flow Method
Revenue Requirements =	Revenue Requirements =
+ Return on Assets with two months working capital	discounted values of:
+ OPEX (with depreciation)	+ Net Book Value of Old Assets
	+ New Investments
	+ Rehab and replacement
	+ OPEX (no depreciation)

4. How would management fees of a subdivision developer who has reached 70% occupancy be treated?
  - ➔ The fees can be compared with benchmarks with other subdivision developers with similar number of connections.
5. How long is a developer obliged to operate the water system of the subdivision?
  - ➔ Refer to PD 957 or the Subdivision Law and
  - ➔ BP 220 related to HLURB



6. What are the current loan rates available to water utilities?
  - ➔ DBP and Landbank 9.5%
  - ➔ LGU Fund 2.0%
7. Approval of tariff good for five years may be recalled if requirements, like the Annual Report, are not submitted on time.
8. Existing process for a financial review takes 3-4 months to complete, involving these major activities:
  - Audit
  - Analysis
  - Drafting of Board Decision Memo

## Annex 8. NEDA Comments on the Tariff Methodology

### AIDE MEMOIRE

SUBJECT: **NWRB Tariff Methodology Study**

DATE: 06 December 2004

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The following are our comments on the subject project for your consideration:

1. In order to facilitate a more objective comparison between the tariffs calculated using the 5-year Return on Investment (ROI) method and the Discounted Cash Flow method, it is suggested that the data used be made consistent.
2. In setting the guidelines for developing the tariff structure, the study should indicate clearly which policy objectives and priorities (e.g. cost recovery, level of efficiency, water conservation, demand management and affordability to consumers) does it intend to relate vis-à-vis the proposed tariff.
3. We agree with the proposal to extend the regulatory period to 5 years as it allows the regulator (NWRB) to review and/or reset tariffs, taking into account changes in the service provider's business plan, changes in service obligations and general changes in the economy and demand for water services as well as review service obligations and, where applicable, set new targets.
4. It is suggested that the proposed study should also cover a discussion on establishing the allowable revenue requirement, including its components, considering that the level of which the tariff is set is largely reflective of the revenue requirement that the service provider requires to recover its costs. Specifically, topics could include:
  - Determining the opening value of the water utility's regulatory asset base;
  - Determining the allowable rate of return on the value of assets;
  - Establishing the method for valuing assets;
  - Establishing the basis for allowing addition to the existing asset base (prudence and efficiency tests for historical and future capital and operating expenditures);
  - Determining the economic depreciation charge ( annual expenses for rehabilitating plan);
  - Establishing the reasonable level of operating expenditure [introduction of key performance indicators (KPIs) to monitor operational efficiency of service provider in activities covering i) production and maintenance; ii) commercial; and iii) general management and administration; and
  - Establishing the extent to which efficiency gains will be shared between water utility and consumers.
5. The abovementioned topics of discussion might also be considered for inclusion in the proposed training of NWRB personnel, which already covers water supply planning, development of business plans and discounting concepts.
6. The proposed study may also consider covering the impact of the new tariff structure on particular consumer groups (e.g. low-income customers) who are most likely to be affected by the changes to determine whether phasing-in of tariff changes would be required or not.

7. Conduct of proper consultation with concerned stakeholders is also suggested prior to the introduction of the new tariff structure.

INFRASTRUCTURE STAFF

## Annex 9. Typical Forum Program

### WATER COOPERATIVE FORUM

28 January 2005

#### PROGRAM

<b>8:00 - 9:00</b>	Registration	
<b>9:00 - 9:15</b>	Invocation	
	National Anthem	
	Acknowledgment of Participants	Mr. Nathaniel C. Santos Deputy Executive Director, NWRB
<b>9:15 - 10:00</b>	Welcome Address	Mr. Ruben N. Conti Chairman, CDA
	Keynote Address	Mr. Ramon B. Alikpala Executive Director, NWRB
	Philippine Water Supply Sector	Ms. Jema Sy IBRD, WPEP
<b>10:00- 10:15</b>	--- BREAK ---	
<b>10:15-11:00</b>	KPI Benchmarking	Mr. Cesar Yniquez ADB
	WPEP Survey: Water Coop Performance	Mr. Antonio De Vera Consultant, IDP
<b>11:00 -12:00</b>	Workshop : Problems of Water Cooperatives	Mr. Antonio De Vera Consultant, IDP
<b>12:00 - 1:00</b>	--- LUNCH ---	
<b>1:00 - 3:00</b>	Workshop: Tariff Design	Ms. Leila H. Elvas Consultant, IDP
<b>3:00 - 3:15</b>	--- BREAK ---	
<b>3:15 - 4:15</b>	Role of NWRB	Mr. Nathaniel Santos Deputy Executive Director, NWRB
<b>4:15 - 5:00</b>	Open Forum	
<b>5:00 - 5:15</b>	Closing Remarks	Mr. Efren Espiritu Reg. Director , CEO for Cebu Ext. Office

## Annex 10. Summary of Workshops Evaluation

February 17, 2005

Mr. Antonio De Vera  
Team Leader  
ADB TA Project  
IDP Consult, Inc.  
Quezon City

Sir:

Please find attached enclosed summary of *Post Seminar/Workshop Questionnaire for Rationalizing Tariff for Private Water Utilities* conducted on various dates.

For your reference.

Very truly yours,

  
NATHANIEL C. SANTOS  
Deputy Executive Director

8th Floor, NIA Building, EDSA, Diliman, Quezon City, PHILIPPINES 1100  
Tel 63.2.9202603, 63.2.9202654 Fax 63.2.9202724  
[www.nwr.gov.ph](http://www.nwr.gov.ph)

## RATIONALIZING TARIFF FOR PRIVATE WATER UTILITIES POST SEMINAR/WORKSHOP QUESTIONNAIRE

### SEMINAR/WORKSHOP ATTENDED:

- |  |                  |   |                |
|--|------------------|---|----------------|
| <input type="checkbox"/> Strategic Planning                    | - 1/13&14/05     | <input type="checkbox"/> Tariff Reg. I      | - 1/24/05      |
| <input type="checkbox"/> Economic Reg.                         | - 1/17/05        | <input type="checkbox"/> Tariff II          | - 2/10 & 11/05 |
| <input type="checkbox"/> Technical Reg. I & II                 | - 1/18& 20, 2005 | <input type="checkbox"/> Financial Reg. I   | - 2/22/05      |
| <input type="checkbox"/> Rationalizing Field<br>Data Gathering | - 1/31/05        | <input type="checkbox"/> Financial Reg. II  | - 2/11/05      |
|  |                  | <input type="checkbox"/> Planning Work Flow | 2/17/05        |

Please check/write your answer on the space provided. Your inputs will be collected and summarized as a ready reference for future activities.

### 1) How do you assess the seminar/workshop as a whole in terms of the following?

- Objectives:     (13) very clear     (13) clear     ( ) barely clear     ( ) not clear
- Speakers:     (6) excellent     (21) very good     ( ) good     ( ) fair
- Venue/facilities:     (20) adequate     (7) not adequate
- Duration of seminar:     ( ) long     (16) enough     (12) short
- Materials/Handouts     (8) very good     (18) good     ( ) fair     ( ) poor
- Methodology used     (10) very effective     (16) effective
- (1) moderately effective
- ( ) somewhat ineffective     ( ) ineffective

### 2) What specific knowledge, technique and/or skill that was/were presented in the seminar/workshop did you find most helpful in your present job?

- all techniques and data presented are very helpful in my present job
- tariff hands on part II
- useful excel tools like preparation of multiple sheet and link cells for the computation of ROI
- I appreciate the importance of water test results submitted, that even the location where the sample was taken matters, not like before that is just rely on the said result for as long as it passed the requirement of PNSDW
- Water quality and testing procedures - 2
- Everything presented in Technical I & II are very helpful in the undertakings of the Monitoring and Enforcement Division.
- Effective leadership -3
- Tariff setting -
- Enhancing good relationship with staff and officials
- Leadership requirements and techniques

Equal protection of utility operator and the consumers. Consumers awareness, asset mgt, plans, 5year water tariff methodology.

- Topics on leadership and economic regulation workshop.
- How to conduct actual discharge measurement.
- Techniques on how to determine the extend the level of service provided by water utilities operators.
- Modified tariff computations, periodic rate review.
- Ways of managing staff.
- Public relations with subordinates and peers, and supervisors.
- On the practical side of technical regulations including strategic planning and rationalization of data gathering.
- Technical regulations.
- Topics presented on sessions on technical regulation I & II.
- Consideration in tariff setting that can be look into setting NWRB fees & charges.
- Leadership skills.
- Not applicable to my present job.
- Entering in worksheet cells, viewing workbooks and worksheets. Links is the easiest way to compute and analyze

**3) Is there any specific knowledge, technique and/or skill that was/were presented in the seminar/workshop that you would want the office to adopt? If so, what?**

- leadership and tariff setting
- if there are some miscommunications, sent a note to the concerned and give the good points thru the weak points
- tariff hands on part II
- preparation of five year business plan and disallowances subject to return
- parameters to consider like collection efficiency and ratio of employee per service connection
- NWRB technical staff is held accountable for all activities undertaken as part of their duties and responsibilities, such being the case, nobody outside the agency can be accounted for in performing such duty.
- Testing procedure using comparator to ensure the potability of water during the actual inspection - 2
- Determining the level of service of a utility operator
- Economic regulations
- Develop and test run a tariff methodology and made applicable to the various situations of different water utilities.
- Good communications from top to bottom and vice-versa
- Yes, persuasion strategies.
- An inspection by area, benchmarks with other utilities
- Yes, the tariff model presented.
- Adopt all
- Flexibility

- Five year business plan, asset mgt. plan, periodic rate review, computation of low income group.
- Yes, recognizing and appreciating staff's works/performance.
- The adoption of the regulation of technical aspects.
- Rationalization of field data gathering.
- Yes, the process in gathering technical data on water sources of water utilities (as presented by Mr. de Vera).
- Regular review of tariffs of water utilities taking into consideration their 5year business plan.
- To promote the leadership techniques introduce in the seminar ex. Motivation skills.
- Adopt tariff setting goals

**4) Do you have any suggestion on how these can be adopted by the office?**

- Manual-operation
- Benchmarking – for property and equipment to consider for computation of return and operating expenses allowed and disallowed
- We should not rely on other agency for technical assistance for validity and reliability reason, the accountability of the inspector as well, since said activity is NWRB's jurisdiction
- Thru device must be acquired by this office for its utilization.
- Revised the old method of technical evaluation being applied and formulate or adopt what is presented in the seminar.
- To conduct more seminar , workshops and to purchase relative equipments to enable the engineers to familiarize in the techniques
- Big area of operation who are financially capable to operate be given more priority with water permit and CPC
- These can be adopted by the office thru balancing the competing interest of the consumers and service providers by measuring the performance standards of the service providers thru key performance indicators and business efficiency measures.
- Avoid too much protocol, for your information should be readily accepted by the highest official concerned.
- Constant communications, setting examples, positive motivation
- Proper monitoring of the asset condition inputted in the operation, issuance of official order for technical inspection by area.
- Pilot testing of the tariff model.
- Echo seminars to all who handles field investigations.
- Dialogue
- Guidelines on modified tariff computation should be approved by the Board. - 2
- Educate CPC grantees and applicants about the new requirements on the modified tariff computation.
- Do not docket applications with incomplete requirements.



- A need for executive director and deputy exec. Director to undertake leadership training.
- These can be adopted by using the annual report as basis for the supervisory regulatory fee.
- Standard field data form should be designed/used by the office.
- More orientation and trainings of staffs.
- Additional resources like people.
- Tariff setting computation is complicated; more time for analysis is needed before we can adopt the system.
- Analyst must use computer to make report easily.

**5) What are the additional resources needed to apply what you have learned in the seminar/workshop (e. g. people, procedures, equipment )?**

- additional computer - 2
- a more detailed procedure for resetting tariff with disallowance
- valuation of property and equipment which is fully depreciated but still serviceable
- the need for “chlorine comparator”
- more lectures/consultants & manuals
- Learn how to determine the average income of the low income group in a given locality.
- Improve communication procedures
- People and procedures - 2
- Additional dedicated personnel, procedures, re-visit the rules, pleading, and practices adopted by the NWRB.
- Formulate standard operating procedures.
- Procure equipment for field investigations.
- Additional staff that is efficient/qualified people - 2.
- Procedure on proper information/dissemination of new tariff computation to clients.
- Additional resources should include violations for the adoption of the procedures.
- A simpler method that can be easily adopted by the clients - 2

**6) If you could suggest one thing to improve the conduct of the seminar/workshop it would be .... \_\_\_\_**

- the seminar has totally no problem its just that, its location is very near in the office and the call time is very difficult since its location is very adjacent.
- Actual – 2
- It would be interesting if we have evaluated one CPC applicant for the case study
- We use exact examples and manuals/tables , etc.
- Additional resource speakers

- Try to input suggestion/opinion that will improve the result of the seminar/workshop the participants must evaluate the result of their assumptions.
- Distribute the seminar/trainings/workshop to all the employees (on the part of NWRB mgt.).
- It was a very short seminar not everything was discussed
- Reading material should be readable especially on the tabulated figure - 2.
- Simplified methodology for tariff analysis -2
- On-site presentations.- 2
- Advice participants to observe the scheduled time of seminar/workshop.
- More time for practical/examples for better understanding - 2
- Sharing of the participants knowledge in the actual applications.
- More time for hands-on exercises.

**7. Do you think the 4 divisions of the office (PPD, WRD, WUD and MED) are able to function effectively (a) as independent units and (b) in coordination with the other units of the office?**

- Yes - 4
- To avoid also duplication of duties and responsibilities and overlapping of functions as far as technical inspection is concerned.
- For MED – we coordinate with other divisions individually specially with WRD & WUD
- Definitely no, because without the PPD, WRD, WUD, and MED , the office will not function efficiently and accurately.
- In coordination with other units of the office - 13
- As independent unit however what is lacking is coordination bet. Divisions.
- Yes, as independent units but improved coordination needed with other units.
- Yes, on available financial resources. (b) not very effective.

**8) What can you suggest to improve the coordination between PPD, WRD, WUD and MED?**

- Independent body tasks to give modules concerning the division, function, mission and vision
- Transparency and communication to avoid duplication of tasks - 2
- Conduct regular meeting and discuss issues relative to their operations/undertakings - 3
- First of all there must be humility, love, understanding, and forgiveness bet the four division. Second, forget all the hatred in our hearts and let us sow love.
- Device a system to route matters for interaction of division concerned ex. Policy resolution should be disseminated to all the division.
- Regular mancom so everybody knows what the other divisions are doing.
- By familiarization on the operating manuals of each divisions.
- To form a task force or committee - 2
- There should be a system/procedure to avoid duplication of functions.

- Create operations by areas and decentralization of major activities to these areas.
- Issue office order for the MED staff that they can conduct technical inspection for CPC Applicants that is within their area of field visits considering austerity program.
- Tasks should be carried out/performed by proper division and head of office and head of office should know what division is responsible for task to be assigned.
- Work related matter between the divisions should be thoroughly discussed.
- Adoption of an agency work/flowchart.
- There must be an open communication bet. The divisions and the willingness to share whatever knowledge, data, and information they have. - 3
- Tasks that need to be coordinated be discussed during execom, mancom to elicit support and commitments. - 2
- Conduct quarterly dialogue among the divisions to thresh out problems and solutions to improve the functions of the office.
- Conduct general assembly.

ADB TA 6123-REG  
PILOT AND DEMONSTRATION ACTIVITY

Promoting Effective Water Management  
Policies and Practices- Phase 3

RATIONALIZING TARIFFS  
FOR PRIVATE WATER UTILITIES  
UNDER THE  
NATIONAL WATER RESOURCES BOARD

FINAL REPORT

Volume II  
Revised Guidelines on  
Tariff Setting and  
Regulation

MARCH 2005

Submitted by  
IDP Consult, Inc.

# Abbreviations and Acronyms

AWC	Annual Water Charge
CDA	Cooperative Development Authority
CPA	Certified Public Accountant
CPC	Certificate of Public Convenience
CPCN	Certificate of Public Convenience and Necessity
Cu.m., m <sup>3</sup>	Cubic Meter
Dep	Depreciation
DTI	Department of Trade and Industry
EV	Equivalent Volume
GPM	Gallons per Minute
KPI	Key Performance Indicator
LGU	Local Government Unit
MaxNI	Maximum Allowable Net Income
MWSS	Metropolitan Waterworks and Sewerage System
NRW	Non-Revenue Water
NSO	National Statistics Office
NWRB	National Water Resources Board
NWRC	National Water Resources Council
O & M	Operation and Maintenance
OPEX	Operating Expenses
OR	Official Receipt
PEER	Property and Equipment Entitled to Return
Psi	Pounds per square inch
PTR	Professional Tax Receipt
ROI	Return on Investments
RR	Revenue Requirements
RWSA	Rural Water and Sanitation Association
SEC	Securities and Exchange Commission
SRF	Supervision and Regulation Fee
YTD	Year to Date

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# 1 Introduction

This manual presents the guidelines and fundamentals of the rate making process and related practices and serves as a resource that NWRB or the private water utility may use as a guide in establishing the basis on which rates are founded, in calculating the rates and in the analysis of its validity. It is not intended, nor should it be considered, as a complete text for specific rate making. The complexities of tariff regulation require consideration of many factors not included in this simplified presentation.

The structure of the manual basically follows the tariff process. First the tariff goals and committed levels of service are set as discussed in Chapter 1-Introduction. Chapter 2 - tariff setting and the rate design process follows. Based on tariff goals and committed levels of service, revenue requirements are determined for the next five years. A section on water supply planning is included as a framework for the computation of revenue requirements. Annual base tariffs are determined based on an estimate of consumption levels. A section on rate design follows which sets about considerations in the design of a tariff structure. Chapter 3 deals with Tariff Regulation including documentary requirements and resulting adjustments to succeeding tariff proposals. The next chapters deal with water rate adjustments other than those related to tariff reviews (Chapter 4) and sanctions (Chapter 5). Chapter 6 discusses the tariff approval process including documentary requirements, timeframe and public hearing.

The last chapter pertains to the guidelines in preparing the Annual Report that will be used to regulate the water utilities.

## 1.1 Tariff Goals

The goals of the tariff must be identified in any tariff proposal. Tariff setting goals may consider the following:

**Financial sustainability** requires the utility to have funds to cover all financial obligations as they occur.

**Good governance** requires that tariff should at the very least be simple, transparent and predictable. Good governance relates more to the implementation of the tariffs. Transparency and predictability relate more to the process of setting a tariff, rather than to the tariff itself. Simplicity, on the other hand, affects the tariff structure.

**Economic efficiency** is achieved through demand management and water conservation considerations in the tariff structure.

**Distributive justice** requires the public service to be distributed to meet society's standards for the amount of the service that everyone including the poor, deserves or needs.

**Fair pricing** is achieved if users pay the net social cost associated with their use of the public service, unless society has decided to subsidize some users.



## 1.2 Levels of Service

Tariffs are based on levels of service established in consultation with customers and/or their representative bodies. The proposed tariff should be sufficient to provide the agreed levels of service, such as number of hours of service, water quality, non-revenue water percentage, service coverage and pressure at which the service is provided.

The first page of a tariff proposal will set these goals and demonstrate clearly compliance with NWRB's policy objectives and priorities. An example is shown in Box 1-1.

### Box 1-1 Sample Statement of Goals and Priorities

The goals of the tariff proposal for Year \_\_\_\_\_ to Year \_\_\_\_\_ are as follows:

- To cover all revenue requirements for 12% Return on Asset, Operating and Maintenance Expenses (including depreciation), and Taxes<sup>a</sup>. The revenue requirements are based on the following levels of service:
  - Service coverage 90% (entire subdivision area except the X area)
  - Non-revenue water not higher than 25%
  - 12 hours service
  - Water pressure range of \_\_\_ to \_\_\_ psi within 80% of the service area
  - Water quality in compliance with Drinking Water Standards
- To ensure that water is provided to all residents of the area including low income customers and that water bills of low income customers do not exceed 5% of their household income
- To ensure that the tariff structure is simple<sup>b</sup> and understood by customers. Tariff increases are predictable within the next 5 years

<sup>a</sup> financial sustainability goal

<sup>b</sup> good governance goal

## 1.3 Other Parameters for Rate Setting

In addition to the explicit tariff goals and levels of service, the new tariff guidelines feature:

- Use of a **5-year tariff period** based on the utility's Business Plan. For this purpose a section on Water Supply Planning (Chapter 2.2) is included in the guidelines;
- Use of **key performance indicators as benchmarks**, where appropriate, to provide the basis for projections;
- Use of an Excel-based **tariff model**;
- Calculation of an **average ROI** to reduce price shocks within the five year period, and to minimize administrative workload; and
- At the end of the 5 year period, a mechanism for calculation of **disallowances / upward adjustment** which will permit adjustments for

excess/ deficiencies in meeting the 12% ROI, to be applied to succeeding tariff proposals.

## 1.4 Legal Requisites

There must be an application for CPC including a tariff proposal submitted under oath by the applicant utility before the water rates can be approved.

Water rates must be adequate to provide for:

1. Operating expenses<sup>1</sup>, but excluding such items as the following that distort the result of normal operations:
  - a. non-recurring expenses (like losses due to typhoon or fire); and
  - b. expenses related to non-regulated activities (see Section 2.1)
2. Depreciation of property in service entitled to return; and
3. Reasonable surplus equivalent to 12% of net book value of property in service entitled to return<sup>2</sup> including working capital for two months;

The proposed water rates and the scheduled hearing date must be published in a newspaper of general circulation in the utility's province at least 15 days before the hearing date, to give a chance for the public or concerned parties to be heard.

Approved water rates must be posted within 7 days from approval in conspicuous places within the area serviced by the water supply utility<sup>3</sup>.

## 2 Tariff Setting and the Rate Design Process

### 2.1 Revenue Requirements

In providing adequate water service to its customers, every water utility must receive sufficient revenue to ensure proper operation and maintenance of the system, its sustainability, and maintenance of the system's financial integrity. The first step in utility rate making is to determine the total annual operating revenue requirements for the period in which the rates are to be effective.

Revenue requirements (RR) are the costs of service to be derived from water rates. These are composed of operating expenses (OPEX), depreciation (Dep), and the maximum allowable net income which should result in an ROI that should not exceed the 12% ROI limitation (MaxNI),

$$\text{RR} = \text{OPEX} + \text{Dep} + \text{MaxNI}$$

The required tariff is arrived at by dividing the revenue requirements by volume sold. This is illustrated in Table 2-1 below.

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<sup>1</sup> Per NWRB Board Resolution No. 265-4, 2. 1985

<sup>2</sup> Per NWRB Board Resolution No. 265-4, 2. 1985 and Board Resolution No. 05-196 dated January 25, 1996

<sup>3</sup> Per NWRB Board Resolution No. 08-1000

Revenue requirements (and consequently operating expenses) should include only those from regulated activities like provision of water supply. Examples of non regulated activities are sale of bottled water, purchases of lots for speculation, sale of water supply materials and equipment and services, retail business, janitorial services, etc.

**Table 2-1 Composition of Revenue Requirements**

	2005 Year 1	2006 Year 2	2007 Year 3	2008 Year 4	2009 Year 5
Maximum Allowable Net Income	147,592	182,482	261,561	235,922	209,414
Operating Expenses	1,086,054	1,171,808	1,218,458	1,305,817	1,349,790
Depreciation	144,041	155,066	329,005	329,005	329,005
Revenue Requirement	1,377,686	1,509,357	1,809,025	1,870,744	1,888,209
Volume Sold, m3	174,720	174,720	174,720	174,720	174,720
Required Average Tariff (Php/cum)	7.89	8.64	10.35	10.71	10.81

**Operating expenses** include expenditures on labor (salaries and wages), management fees, power, chemicals, materials, supplies, rent, advertising, insurance, contracted services, taxes and other fees, and routine maintenance expenses on assets (in contrast to expenditure for replacing and rehabilitating assets that is sourced from the capital expenditure budget). Expenses pertaining to revenues that are not regulated are excluded. These expenses must be spent efficiently in a proper and prudent manner. These are discussed in more detail in Section 2.2.3.

**Depreciation** pertains only to the property and equipment entitled to return (PEER).

**Maximum allowable net income** is calculated below and illustrated in Table 2-2.

**PEER**, at net book value  
 + **Working capital** good for two months  
 = Total invested capital entitled to return  
 x 12% rate of return  
 = Maximum allowable net income

**PEER** at net book value is calculated as follows:  
 Cost of PEER at the beginning of the year  
 + New investments entitled to return  
 = Total PEER, at cost  
 - Accumulated depreciation of the above assets  
 = Total PEER, net book value

Property and equipment entitled to return (PEER) are those assets in service that are directly used in the operations of the water system, and were funded by the owner's own funds, a loan, or internal cash generation. These assets are entitled to return to compensate the owner for the risk and cost of money on the investments. Assets funded by grants and donations or recovered in other ways aside from water tariffs are therefore not entitled to return. Assets funded by a loan are entitled to return, but interest thereon is not included in the revenue requirements. See Table 2-4 illustrating which assets are entitled to return or not.

**Working capital** good for two months, is calculated as follows:  
 Operating expenses excluding depreciation  
 / 12 to get operating expenses for one month  
 x 2 months

= Working capital for two months

Operating expenses for purposes of calculating working capital has the same composition as operating expenses in calculating revenue requirements, except that depreciation, a non-cash expense account, is not included.

**Table 2-2 Illustration of Maximum Allowable Net Income**

	2005 Year 1	2006 Year 2	2007 Year 3	2008 Year 4	2009 Year 5	Total Years 1-5
Property & Equipment, beg	1,031,463	1,950,213	2,280,963	3,160,405	3,160,405	
New Investments	918,750	330,750	879,442	-	-	
Property and Equipment in Service Entitled to	1,950,213	2,280,963	3,160,405	3,160,405	3,160,405	
Less: Accumulated Depreciation	(901,292)	(955,578)	(1,183,803)	(1,412,028)	(1,640,253)	
<b>Net Book Value</b>	<b>1,048,921</b>	<b>1,325,385</b>	<b>1,976,602</b>	<b>1,748,377</b>	<b>1,520,152</b>	
<b>Add: Working Capital</b>						
Operating Expenses excluding depreciation	1,086,054	1,171,808	1,218,458	1,305,817	1,349,790	
2-Months Average Cash Operating Expenses	181,009	195,301	203,076	217,636	224,965	
<b>Total Invested Capital Entitled to Return</b>	<b>1,229,930</b>	<b>1,520,687</b>	<b>2,179,679</b>	<b>1,966,013</b>	<b>1,745,117</b>	<b>1,728,285</b>
Maximum Allowable Rate of Return	12.00%	12.00%	12.00%	12.00%	12.00%	
Maximum Allowable Net Income	147,592	182,482	261,561	235,922	209,414	
Maximum Allowable Net Income	147,592	182,482	261,561	235,922	209,414	
Operating Expenses	1,086,054	1,171,808	1,218,458	1,305,817	1,349,790	
Depreciation	144,041	155,066	329,005	329,005	329,005	
<b>Revenue Requirement</b>	<b>1,377,686</b>	<b>1,509,357</b>	<b>1,809,025</b>	<b>1,870,744</b>	<b>1,888,209</b>	<b>8,455,021</b>
Volume Sold, m3	174,720	174,720	174,720	174,720	174,720	873,600
Required Average Tariff (Php/cum)	7.89	8.64	10.35	10.71	10.81	9.68
Average Return on Investments						
Net Income (Loss) Before Tax, net	460,909	364,130	143,541	56,182	12,209	207,394
Average Water Revenues/m3 Sold	9.68	9.68	9.68	9.68	9.68	
Rate of Return	37.5%	23.9%	6.6%	2.9%	0.7%	12.0%

### Implementing an Average Tariff

The resulting tariff may go up or down from year to year depending on the actual investments made and the number of customers contributing to the revenue requirements. A final step at setting the average tariff is how to avoid erratic price increases over the 5 year period. This calls for the use of the average ROI during this period. This is done as follows:

1. Compute the total revenue requirements for Years 1-5.  
From Table 2.2 above, this is 8,455,021.
2. Compute the total volume to be sold for Years 1-5.  
From Table 2.2 above, this is 873,600 cubic meters.
3. Compute the average tariff per cubic meter sold, as follows:  
=  $\frac{\text{Total revenue requirements, Years 1-5}}{\text{Total volume to be sold, Years 1-5}}$

$$\text{Substituting the values, the average tariff is:} \\ = \frac{8,455,021}{873,600} = 9.68$$

This average tariff per cubic meter sold, P9.68 in the example, will now be the tariff to be applied for each of the five years. This is proven in the last section of Table 2-2, where the total net income for the period represents 12% of the net book value of assets entitled to return.

If the applicant water utility proposes a water tariff that is higher than the tariff yielding a 12% ROI, NWRB will approve the tariff at the 12% ROI level. But if the applicant proposes a tariff with a lower yield than 12%, NWRB will approve the tariff proposed by the applicant. NWRB will take it that the applicant waives its entitlement to a 12% ROI as it submits its proposed tariff for approval. For this reason, the applicant must be careful in submitting its proposed tariff, to ensure that the utility will not financially suffer as a result.

The proposed water tariff increase should not exceed 80% of the existing tariff<sup>4</sup>, otherwise a two-step increase may be necessary within the 5 year period.

## **2.2 Water Supply Planning**

It is considered good practice for water utilities to have a business plan including an asset management plan to ensure improved operations and service and sustainability. The business plan should reflect levels of service intended to be implemented based on the proposed level of tariff. These become the bases for determining the propriety of required investments, demand and supply levels, and the corresponding operating expenses to be incurred.

### **2.2.1 Demand and Supply Analysis**

#### **Demand**

The utility has to plan for the water demand from projected consumers during the next five years. This is done as follows:

1. Project the new connections that can be attained during the next five years.

Break them down by category of consumers, if there are categories other than residential consumers.

2. Calculate the average consumption for each consumer category, using the following formula:

$$\begin{aligned} &\text{Average consumption per month per connection, in cu. m.} \\ &= \frac{\text{Total billed volume for the year in cu. m.}}{12 \text{ months} \times \text{total number of connections}} \end{aligned}$$

The average monthly consumption for each consumer category will be needed later in calculating the water rates.

3. Project the demand or volume to be sold in cu. m., as follows:

$$\begin{aligned} &\text{Projected volume sold per year, in m}^3 \\ &= \text{Projected total connections for the year} \\ &\quad \times \text{Average consumption per connection per month, in m}^3 \\ &\quad \times 12 \text{ months} \end{aligned}$$

This projected volume sold will be used to project water revenues and to evaluate the sufficiency of existing supply after taking non-revenue water (NRW) into consideration.

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<sup>4</sup> Per NWRB Board Resolution No. 05-1000 dated October 23, 2000

4. Compute the percent of the population served in its service area, using the following formula.

$$\% \text{ Population served} = \frac{\text{Total residential connections} \times \text{average persons per household}}{\text{Total persons in the service area}^5}$$

This percentage gives management an idea of the saturation of its service area. It is a planning tool that shows the potential consumers that can still be served in the future and if there is still room for expansion.

Table 2-3 illustrates these calculations.

**Table 2-3 Demand and Supply Projections**

	2003 Actual	2004	2005	2006 Projected	2007	2008	2009
<b>DEMAND</b>							
New Connections	-	-	-	-	-	-	-
Total Connections	682	682	682	682	682	682	682
Average Persons per Household	6	6	6	6	6	6	6
Population Served	4,092	4,092	4,092	4,092	4,092	4,092	4,092
Ave. Consumption/Conn./Month (m3)	21.24	21.24	21.24	21.24	21.24	21.24	21.24
Volume Sold (m3/year)	200,679	173,847	173,847	173,847	173,847	173,847	173,847
<b>SUPPLY</b>							
Installed Production Capacity, Ips	7.99	7.99	7.99	7.99	7.99	7.99	7.99
Production Capacity (m3/year)	251,973	251,973	251,973	251,973	251,973	251,973	251,973
Unaccounted-for Water (%)	22%	22%	22%	22%	22%	22%	22%
Production Requirement (m3/year)	257,405	222,989	222,989	222,989	222,989	222,989	222,989
Bulk Water Purchases (m3/year)	-	-	-	-	-	-	-
Total Own Production and Water Purchases (m3/yr)	251,973	251,973	251,973	251,973	251,973	251,973	251,973
Water Surplus / (Shortage) (m3/year)	(5,433)	28,983	28,983	28,983	28,983	28,983	28,983
Water Surplus / (Shortage) (Ips)	(0.17)	0.92	0.92	0.92	0.92	0.92	0.92

## Supply

Once the demand for water has been determined, the utility now has to check whether it has enough water to serve them. Again, the utility's business plan has to be considered in projecting the supply side. This is done as follows:

1. Determine the production capacity of the utility. This is the capacity of the utility's production wells, springs, or treatment plants, or their combination.
2. Determine the non-revenue water. This is water produced that are not billed and sold to consumers. This is calculated as follows:

$$= \frac{(\text{Total Volume Produced} + \text{Treated Water Purchase}) - \text{Total Volume Sold}}{\text{Total Volume Produced} + \text{Treated Water Purchased}}$$

An NRW higher than a given benchmark figure, i.e., 25%<sup>6</sup>, is an indication of inefficiency in the water supply system. Water utilities will be given a realistic period of time within which they will be able to bring down their NRW to the benchmark figure or lower if their current level is higher than this. After this agreed period, water utilities will be penalized for operating beyond a

<sup>5</sup> For subdivisions, "total persons in the service area" refers to total persons in the subdivision at full occupancy.

<sup>6</sup> Using LWUA's benchmark for water districts

benchmark figure for NRW. Any disallowance arising from this penalty is discussed in Section 3, Tariff Regulation.

3. Solve for the total required production, whether coming from the utility's own sources or from bulk purchases of treated water. This is done by this formula:

$$= \frac{\text{Volume Sold}}{\text{NRW}\%}$$

4. Add bulk water purchases (treated water) to the utility's own water production to get the total water available for sale.
5. The water surplus or shortage can then be determined as follows:

$$\begin{aligned} &+ \text{Total production capacity} \\ &+ \text{Total bulk water purchases (treated water)} \\ &= \text{Total volume available for sale} \\ &- \text{Total volume to be sold} \\ &= \text{Water surplus / (shortage)} \end{aligned}$$

In case of a substantial water surplus and the utility purchases bulk water to augment its production, either the bulk water purchases can be decreased, or the production from the utility's own sources can be reduced to bring down its non-revenue water.

If there is a water shortage, the utility can review its projections for making new connections and consider the following options:

- limit new connections
- ration water
- reduce its non-revenue water
- increase production if the well capacity is still able to provide more water
- consider having additional sources, like increasing its bulk water purchases or building a new well.

The last two options above will require additional funds, and the utility must be able to finance them, either through internal cash generation, existing reserves, a loan, grant, or additional equity investments.

### 2.2.2 Capital Expenditures

It is good practice for a utility to plan for maintenance/ rehabilitation/ replacement of assets to ensure the sustainability of the system. Preparing an asset management plan is encouraged and the required costs<sup>7</sup> are to be included in the utility's revenue requirements. If existing assets, with replacement/ rehabilitation, still cannot meet required demand, then new capital investments will have to be considered.

#### Depreciation Reserve Fund

All utilities are required under the Public Service Law<sup>8</sup> to set aside its depreciation expense into a depreciation reserve fund. This fund will be used only for

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<sup>7</sup> Also referred to as economic depreciation

<sup>8</sup> Public Service Law, Section 16 (L)

improvements, new constructions, extensions or additions to the property of the water utility.

### Assets Entitled to Return

Property and equipment have to be grouped whether they are entitled to return or not. A return on assets is provided to compensate the utility for the risk involved and the cost of money invested. As such, assets that have been donated or turned over to the utility or are recovered via other ways aside from water tariffs, are not entitled to return. For subdivision developers, assets forming part of land development are not subject to return because their costs are already included in the cost of the lots that are sold. Table 2-4 illustrates which assets are entitled to return or not.

### 2.2.3 Operating Expenses

Once the demand and supply have been established, operating expenses to support them will now have to be calculated. Projections of these expenses are based on previous years' actual data, or benchmark data on KPIs from the private utility benchmarking database to be developed by NWRB. These are the general classification of operating expenses and how they are projected.

1. Personnel. These are salaries, wages, honoraria, allowances and other personnel benefits given to management and staff. Personnel expenses are projected as follows:

$$= \frac{\text{[Total actual salaries and benefits for the year/ total employees]}}{\text{X projected number of employees}}$$

2. Management fees. Some utilities pay management fees for such services as metering, billing, collection, and accounting. These fees are supported by a contract between the utility and the management company. These fees may be used for projection purposes. The private utility benchmarking database for this expense may be used to check the reasonableness of the amount projected by the applicant.
3. Power. This expense represents the power bill of the utility. This is projected by computing the cost of power per volume produced and multiplying it by inflation. This unit cost of power is calculated as follows:

$$= \frac{\text{Actual total power cost}}{\text{Actual volume produced in m}^3}$$

4. Chemicals. This represents the cost of chlorine and/or other chemicals used in the treatment of water. This is projected by computing the cost of chemicals per volume produced, and multiplying it by inflation. The unit cost of chemicals is calculated as follows:

$$= \frac{\text{Actual total chemicals cost}}{\text{Actual volume produced in m}^3}$$



**Table 2-4 Assets Entitled to Return**

Type of Operator	How Assets Are Generally Acquired	Are Assets Then Entitled to Returns?
Subdivision Developers	Investments as part of land development	No, since the developer is expected, and it is business practice, to recover costs in full from sale of lots.
	Investments after land development	Yes
Locators Industrial Park Developers Economic Zone Developers Science Park Developers	Investments as part of land development	No
	Investments after land development	Yes
Homeowners Associations	Turned over by developer	Since homeowners are also the customers who will pay the tariffs, they may, if all homeowners/consumers agree, impose a rate of return upon their assets that in effect they paid for as part of the lot.
	Own investments after turn-over	Yes
Cooperatives RWSAs LGU-run Water Utilities	Grants from LGUs, bilateral / multilateral programs, etc.	No since assets are donated. But they should set aside the amount of the annual depreciation as cash reserves to maintain assets in good condition.
	Loan of LGU for the LGU-run water utility	Yes
	Own investments	Yes
Subdivision Operators Resettlement Area Operators	Assigned by subdivision developer or LGU to be managed by Operator, Management contract	No, but entitled to management fees
	Own investments after assignment of assets	Yes
Small scale service providers Point-of-Source Sellers Private Operators Ship chandlers who sell bulk water to ships	Put in by owner	Yes

5. Bulk water purchases. There are utilities that buy bulk water from other service providers like Maynilad or Manila Water to augment their own supply. This cost is projected as follows:

$$= \text{Bulk water price/m}^3 \text{ based on purchase agreement} \\
\times \text{volume to be purchased for the year}$$

6. Repairs and maintenance. This expense represents expenditures to keep assets in good working condition without extending the useful life of the asset. The normal percentage used is 2% to 3% of the net book value of assets in service. But the utility's business plan may be considered in determining its projected level of maintenance.
7. Bad debts. This expense represents accounts that can no longer be collected. Normally, this is 2% of water revenues.
8. Annual water charge. This is NWRB's fee based on the deep well discharge granted on a water permit. The amount of the fee varies according to the volume of discharge allowed.
9. Supervision and regulation fee. This is a fee to NWRB calculated as 0.5% of total paid-up capital or cost of property and equipment, whichever is higher.
10. General and administrative expenses. These expenses represent all other expenses of the utility not identified above, which are incurred for the operation of the utility. For projection purposes, this is computed as a percentage of total personnel cost.

The water utility must prepare a breakdown of these expenses to enable NWRB to determine the propriety of these expenses. They may be compared against benchmarks of NWRB based on a database of private utilities under its jurisdiction.

11. Depreciation. This is the depreciation of all assets in service, whether entitled or not to return. For projection purposes, the composite depreciation of existing assets is used.
12. Taxes. This account includes franchise taxes, value-added tax, and any other tax, except income tax which is not an operating expense and is computed separately. Franchise tax is computed by multiplying operating revenues net of bad debts by the rate of the franchise tax. The value-added tax is computed by multiplying water revenues by the VAT rate.

Table 2-5 illustrates how the projections of these operating expenses are presented.

**Table 2-5 Illustration of Operating Expenses**

	2003 Actual	2004	2005	2006	2007	2008	2009
<b>PERSONNEL</b>							
Number of Employees	10	6	6	6	6	6	6
Employees / 1000 Connections	14.7	8.8	8.8	8.8	8.8	8.8	8.8
Connections/employee	68	114	114	114	114	114	114
Escalation Factor for Personnel	12%	0%	5%	5%	4%	4%	4%
Cost / Employee / Year	42,143	42,143	44,250	46,462	48,321	50,254	52,264
Personnel Cost	421,428	252,857	265,500	278,775	289,926	301,523	313,584
<b>MANAGEMENT FEES</b>							
Annual Rate Increase	0%	0%	0%	0%	0%	0%	0%
Management Fees	180,000	180,000	180,000	180,000	180,000	180,000	180,000
<b>POWER</b>							
Escalation Factor for Power	7%	10%	5%	5%	4%	4%	4%
Power Cost (Peso / m3 produced)	1.71	1.88	1.97	2.07	2.16	2.24	2.33
Power Cost, Total (Pesos)	440,142	490,497	507,448	525,098	538,301	551,948	566,053
<b>CHEMICALS</b>							
Escalation Factor for Chemicals	0%	0%	5%	5%	4%	4%	4%
Chemical Cost (Peso / m3 produced)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Chemical Cost, Total (Pesos)	-	2,008	1,978	1,950	1,922	1,895	1,869
<b>BULK WATER PURCHASES</b>							
Escalation Factor for Bulk Water Purchases	0%	0%	5%	5%	4%	4%	4%
Cost/m3 purchased	-	-	-	-	-	-	-
Bulk Water Purchases	-	-	-	-	-	-	-
<b>REPAIRS AND MAINTENANCE</b>							
Maintenance of Net Assets (%)	8%	5%	5%	5%	5%	5%	5%
Net Assets Allocated	687,015	493,019	398,159	1,078,649	1,113,229	1,631,861	1,271,051
Maintenance Expenses (Pesos)	54,572	24,651	19,908	53,932	55,661	81,593	63,553
<b>BAD DEBTS</b>							
% of Water Revenues	0%	2%	2%	2%	2%	2%	2%
Bad debts/volume sold	-	0.13	0.13	0.13	0.13	0.13	0.13
Bad Debts (Pesos)	-	22,783	22,783	22,783	22,783	22,783	22,783
<b>ANNUAL WATER CHARGE</b>							
Number of Deepwells	1	1	1	1	1	1	1
Water Charge per Well	506	506	506	506	506	506	506
Annual Water Charge (Pesos)	-	506	506	506	506	506	506
<b>SUPERVISION AND REGULATION FEE</b>							
Property and Equipment in Service		2,639,345	2,746,345	3,698,695	4,029,445	4,908,887	4,908,887
Paid-Up Capital		187,500	187,500	187,500	187,500	187,500	187,500
Basis of Fee		2,639,345	2,746,345	3,698,695	4,029,445	4,908,887	4,908,887
Rate		0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Supervision and Regulation Fee (Pesos)	-	13,197	13,732	18,493	20,147	24,544	24,544
<b>FRANCHISE TAX</b>							
Operating Revenues		1,139,174	1,541,030	1,541,030	1,541,030	1,541,030	1,541,030
% Net of Bad Debts		98%	98%	98%	98%	98%	98%
Net Operating Revenues		1,116,391	1,510,210	1,510,210	1,510,210	1,510,210	1,510,210
Franchise Tax for the Year		-	-	-	-	-	-
<b>GENERAL &amp; ADMINISTRATIVE EXPENSES</b>							
% of Personnel Cost	11%	15%	15%	15%	15%	15%	15%
General and Administrative Expenses (Pesos)	66,398	66,398	69,718	76,864	88,132	105,095	130,334
<b>DEPRECIATION</b>							
Average Depreciation Rate	7%	7%	7%	7%	7%	7%	7%
Depreciation (Pesos)	281,875	193,996	201,860	271,859	296,170	360,810	360,810

## 2.2.4 Financing

If the utility secured a loan to fund its capital investments, the related accounts have also to be included in the projections. If the utility is still disbursing from the loan, these disbursements have to be projected per year. Then based on the loan agreement, the principal amortization, as well as the corresponding interest expense, should be included in the projections.

The following data are required for projection purposes:

1. Terms of loan, interest rate, principal amount, start and ending date of loan repayment
2. Principal repayment for the next five years
3. Interest every year

## 2.3 Rate Design

### 2.3.1 Rate Structure

In general, all consumers are considered residential, although NWRB allows water utilities to have other categories of consumers like public taps and commercial and industrial.

There may be only one category of consumers if consumption of other customer categories is not substantial. In this light, consumers with business permit, but whose consumption is close to those of residential consumers, may be classified as residential and not commercial. But commercial consumers may be classified together with industrial consumers if their consumption is significantly higher than residential consumers.

Commercial and industrial consumers are those that can pass on the cost of water to their customers.

The rate structure for public taps, residential and institutional consumers is as follows:

- 0 – 10 m<sup>3</sup> (Minimum Charge)
- 11 – 20
- 20 – 30
- 31 – 40
- 41 – 50
- over 50 m<sup>3</sup>

The rate structure for commercial and industrial consumers<sup>9</sup> is as follows:

- 0-25 m<sup>3</sup> (Minimum Charge)
- 26-1000 m<sup>3</sup>
- over 1000 m<sup>3</sup>

For a peddler/shipchandler<sup>10</sup>, the rate may be per drum, per gallon, per pick-up delivery or by bulk.

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<sup>9</sup> NWRB Board Resolution No. 06-0700 dated July 24, 2000 refers to industrial consumers only. Under these guidelines, commercial consumers are classified together with industrial consumers.

<sup>10</sup> NWRB Board Resolution No. 06-0700 dated July 24, 2000 also prescribes the unit of measure for water sales of peddlers/ship chandlers.

### 2.3.2 Computing the Proposed Water Rates

The water rate structure comprises two parts: the minimum charge and the commodity charge.

The minimum charge is also known as service charge or demand charge. It should be able to cover all the fixed costs required to carry on the vital water supply functions not directly related with production and distribution. It ensures that there will be enough revenues to meet the utility's basic costs during periods of low water sales, such as when there is a drought or for other reasons.

The minimum charge should be within the ability of the low income users to pay for ten cubic meters of water<sup>11</sup>. This volume is assumed to be enough for the basic needs of a low income user. The minimum charge should not exceed 5% of the family income of the low income group in the municipality where the water utility operates.

Every five years, the National Statistics Office publishes the results of the Family Income and Expenditures Survey. This contains the family income of the low income group for the year of the survey. To get the income for any given year after the survey, multiply the income by general inflation of the years from the year of the survey to the given year being computed.

The commodity charge is the amount to be charged for consumption beyond the minimum charge. This amount varies according to volume produced and consumer category.

The quantity block method is being adapted as the method to be used to convert the determined revenue requirements into the tariff structure to be implemented. This supports NWRB's policy to promote conservation of water by providing for a higher tariff for higher consumption.

The following data are needed to be able to determine the water rates to be applied to consumers:

- Average revenue requirements for one year. (The total revenue requirements computation is illustrated in Table 2-1.)
- Number of connections and respective average monthly consumption, classified by consumer category and meter size (see Table 2-6 below).

**Table 2-6 Customers' Blocking**

Meter Size	Public Taps		Residential / Institutional		Commercial / Industrial	
	# Connections	Ave. Cons./Mo.m3	# Connections	Ave. Cons./Mo.m3	# Connections	Ave. Cons./Mo.m3
1/2"						
3/4"						
1"						
1 1/2"						
2"						
3"						
4"						
TOTAL	-		-		-	

<sup>11</sup> Based on lifeline consumption of 10 m3. Other utilities (Kauswagan) have established a lower level of 7 m3 for the minimum block.

These are the procedures in setting the water rates.

**A. Compute the Equivalent Volume**

1. Compute the Equivalent Volume (EV) for each consumer category and quantity block, as follows:
  - = Consumption in the quantity block
  - X connections for the meter size
  - X meter size factor

The meter size factor is a multiplier applied to the consumption of a quantity block to determine its equivalent volume. This factor assumes that with a higher meter size come higher maintenance cost and more convenience appropriate to the needs of the consumer, so that consumers pay higher water rates commensurate to their meter size. The standard meter size factors are shown in Table 2-7 below. The factor for the commercial/industrial consumers are twice that of the public tap, residential or institutional consumers.

**Table 2-7 Meter Size Factor**

	Public Tap / Residential / Institutional	Commercial / Industrial
Meter Size	Meter Size Factor	
1/2"	1.00	2.00
3/4"	1.60	3.20
1"	3.20	6.40
1 1/2"	8.00	16.00
2"	20.00	40.00
3"	36.00	72.00
4"	72.00	144.00

By substituting the figures from Table 2-8 to the formula,

$$\text{Total EV for the 0-10 m}^3 \text{ of the 2 " residential customers} \\ = 10 \text{ m}^3 \times 10 \text{ connections} \times 20.0 \text{ meter size factor} = 2000$$

$$\text{Total EV for the 31-40 m}^3 \text{ quantity block} \\ = 5 \text{ m}^3 \times 10 \text{ connections} \times 20.0 \text{ meter size factor} = 1000$$

2. Compute the monthly total EV by getting the sum of all the EVs in the quantity block.

For the 0-10 m<sup>3</sup> quantity block (column h in Table 2-8), the total monthly EV is 5,600.

3. Compute the annual total EV by multiplying the monthly EV for each quantity block by 12 months.

For the 0-10 m<sup>3</sup> quantity block (column h in Table 2-8), the total annual EV is 5,600 x 12 or 67,200.

4. Compute the Equivalent Volume (EV) by quantity block as follows:

$$\begin{aligned} &= \text{Annual EV} \\ &\times \text{Incremental Factor} \end{aligned}$$

For the 31-40 m<sup>3</sup> quantity block (column k in Table 2-8), the total EV is 12,000 x the incremental factor 2, that gives 24,000.

The incremental factor may be determined by the water utility, depending on the interval it wants between quantity blocks. In Table 2-8, the incremental factors are 1.00, 1.50, 1.75, 2.00 and so on. A sharper increase in a block may be used as a mechanism to discourage more consumption (and encourage water conservation) beyond that block.

The set of incremental factors for the commercial/industrial consumers is fixed at twice that of the residential consumers. But since there are fewer quantity blocks for the commercial/industrial consumers, the first block is the same as the residential consumers' first block. The last block of the commercial/industrial is the same as the residential consumers' highest block. The commercial/industrial's middle block is the same as the residential consumers' third block (31-40 cu.m.) where their average consumption usually falls.

Should the minimum charge be beyond the affordability of the low income group, these incremental factors can be adjusted until an affordable minimum charge is reached.

5. Compute the total EV by adding all the EVs from all the quantity blocks.

In the illustration above, the total EV of all the quantity blocks is 214,800.

#### **B. Compute the Cost per EV**

$$= \frac{\text{Annualized Revenue Requirement}}{\text{Total Equivalent Values}}$$

Assuming the annualized revenue requirements is 1,691,004, cost per EV

$$= \frac{1,691,004}{214,800} = 7.87$$

**Table 2-8 Computation of Equivalent Volume**

COMPUTATION OF EQUIVALENT VOLUME						Equivalent Volume or EV						
	Size	Meter Size Factor	Number of Connections	Average Monthly Consumption	Total Consumption	TOTAL EV	0-10 cu.m.	11-20 cu.m.	21-30 cu.m.	31-40 cu.m.	41-50 cu.m.	Over 50 cu.m.
<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f = d X e</i>	<i>g = h .. M</i>	<i>h</i>	<i>i</i>	<i>j</i>	<i>k</i>	<i>l</i>	<i>m</i>
Residential/	1/2"	1.00	200	10	2,000	2,000	2,000	-	-	-	-	-
Institutional	3/4"	1.60			-	-	-	-	-	-	-	-
	1"	3.20	50	25	1,250	4,000	1,600	1,600	800	-	-	-
	1 1/2"	8.00			-	-	-	-	-	-	-	-
	2"	20.00	10	35	350	7,000	2,000	2,000	2,000	1,000	-	-
	3"	36.00			-	-	-	-	-	-	-	-
	4"	72.00			-	-	-	-	-	-	-	-
Sub-Total, Connections			250									
Sub-Total, Equivalent Consumption, monthly, m3					3,600	13,000	5,600	3,600	2,800	1,000	-	-
Sub-Total, Equivalent Consumption, annual, m3					43,200	156,000	67,200	43,200	33,600	12,000	-	-
<i>Increment Factor</i>							<i>1.00</i>	<i>1.50</i>	<i>1.75</i>	<i>2.00</i>	<i>2.50</i>	<i>3.00</i>
<b>Equivalent Volume</b>						<b>214,800</b>	<b>67,200</b>	<b>64,800</b>	<b>58,800</b>	<b>24,000</b>	-	-

**Table 2-9 Computation of Water Rate**

COMPUTATION OF COST PER EQUIVALENT VALUES														
	Size	Cost/EV	Total Revenues	0 - 10 cu.m.			11-20 cu.m.			21-30 cu.m.			31-40 cu.m.	
				Qty Block Factor	Tariff Rate	Revenues	Qty Block Factor	Tariff Rate	Revenues	Qty Block Factor	Tariff Rate	Revenues	Qty Block Factor	Tariff Rate
Residential/	1/2"	7.87	188,939	1.00	7.87	188,939	1.50	11.81	-	1.75	13.78	-	2.00	15.74
Institutional	3/4"	7.87	-	1.00	7.87	-	1.50	11.81	-	1.75	13.78	-	2.00	15.74
	1"	7.87	510,135	1.00	7.87	151,151	1.50	11.81	226,727	1.75	13.78	132,257	2.00	15.74
	1 1/2"	7.87	-	1.00	7.87	-	1.50	11.81	-	1.75	13.78	-	2.00	15.74
	2"	7.87	991,930	1.00	7.87	188,939	1.50	11.81	283,409	1.75	13.78	330,643	2.00	15.74
	3"	7.87	-	1.00	7.87	-	1.50	11.81	-	1.75	13.78	-	2.00	15.74
	4"	7.87	-	1.00	7.87	-	1.50	11.81	-	1.75	13.78	-	2.00	15.74
Total Revenues, Residential/Institu			1,691,004			529,029			510,135			462,901		



**C. Compute the tariff rate for the quantity block of each consumer category**

= Cost per EV X Incremental Factor

This is illustrated in Table 2-9. For the 0-10 block of residential/ institutional consumers, the rate would be:

= 7.87 X 1.00 or 7.87

For the 11-20 cu m consumption block, this would be 7.87 X 1.50 or 11.81.

The rate structure for the water utility would then be as illustrated in Table 2-10.

The water rate of commercial/industrial consumers is twice the rate of residential consumers.

To simplify billing computations, the proposed water rates may be rounded to the nearest peso.

**Table 2-10 Proposed Water Rates**

Quantity Block (m3)	Public Tap	Residential/ Institutional	Commercial/ Industrial
First 10 m3	78.72	78.72	
11-20	11.81	11.81	
21-30	13.78	13.78	
31-40	15.74	15.74	
41-50	19.68	19.68	
Over 50	23.62	23.62	
First 25 m3			393.62
26-1000			31.49
Over 1000			47.23

**3 Tariff Regulation**

At the end of year 5, the actual average ROI attained over the 5-year period will be compared against the approved ROI. The excess/deficiency will be the basis for a disallowance or upward adjustment for the succeeding tariff review/adjustment. This is done as follows.

**A. Compute the revised Net Assets Entitled to Return:**

1. Review the propriety of investments entitled to return that were made in the last five years. Only the allowed investments entitled to return that were actually implemented will be considered.
2. Review the operating expenses that were actually incurred, and disallowing those that are considered excessive or not spent efficiently and with prudence. The allowed OPEX will be used in calculating the allowed two

months working capital. Allowances/disallowances for power and chemicals, including the effects of not meeting the target NRW are discussed separately at the end of this Section 3.

3. Add the results of (1) and (2) above to get the revised Net Assets Entitled to Return.
- B. Recompute the revenue requirements during the past 5 years.
1. Maximum allowable net income  
= Approved ROI applicable during the past five years  
X Revised Net Assets Entitled to Return
  2. Add adjusted OPEX, as computed in A-2 above.
  3. Add depreciation of all assets in service.
  4. The recomputed revenue requirements  
= Recomputed Maximum Allowable Net Income (B-1)  
+ Adjusted OPEX (A-2)  
+ Adjusted Depreciation (B-3)
- C. Recompute the resulting tariff based on the above recalculations
- $$\frac{\text{= Recomputed Revenue Requirements (B-4)}}{\text{Actual Volume Sold}}$$
- D. Compute the tariff adjustment.
1. Get the difference between the recomputed average tariff and the actual tariff implemented.  
= Should-have-been average tariff (C)  
- Actual average tariff implemented
  2. Compute the tariff adjustment  
= Tariff difference (D-1)  
X Actual Volume Sold
- E. Add or deduct the tariff adjustment (from D-2) from the Revenue Requirements for Years 1-5. The allowances/disallowances will then be reflected in the tariff for the projected Years 1-5.

### **Adjustments Related to NRW**

A water utility whose existing NRW is higher than 25% (or any benchmark figure given by NWRB) will be given a reasonable period to reduce its NRW until it reaches 25%. If the target NRW is not met, the water utility produces more volume to be able to meet the demand for water. Higher power and chemical costs are incurred. These should therefore be disallowed in the next request for tariff approval, thereby reducing the OPEX as part of the revenue requirements.

The water utility will be given a flexibility of a variance of 10% of the target. Within this allowed variance, the water utility will not be penalized.

Illustration (figures in percentages):

	Year 1	Year 2	Year 3	Year 4	Year 5
Target NRW%	40	35	30	27	25
Attained NRW%	42	39	35	25	20
Variance	2	4	5	-2	-5
10% of target	4	3.5	3	2.7	2.5
Penalty	0	0.5	2	0	0

The following are the steps in computing the power and chemical costs to be allowed/disallowed from the OPEX of the past five years.

A. Compute the allowance / disallowance on power and chemical costs arising from the excess volume produced for attaining a higher NRW.

1. Compute the agreed NRW level with a 10% flexibility, as follows:
  - = Target NRW%
  - X 1.10
2. Compute the should-be volume produced at the agreed NRW level with 10% flexibility, based on the actual volume sold.
  - = Actual volume sold for the year
  - (100% – agreed NRW with flexibility) (A-1)
3. Compute excess volume produced
  - = Should-be volume produced (A-2)
  - Actual volume produced
4. Compute power and chemical cost disallowance due to the over-production.
  - = Excess volume produced (A-3)
  - X Power cost/volume produced approved for the past five years
  - + Excess volume produced (A-3)
  - X Chemical cost/volume produced approved for the past five years

B. Compute the allowance / disallowance on power and chemical costs resulting from implementing different unit costs per volume produced.

1. Compute difference in unit cost per volume produced
  - = Cost per volume produced for power and chemicals, approved for the past five years
  - Actual cost per volume produced for power and chemicals
2. Compute the amount disallowed for power and chemicals resulting from implementing different unit costs per volume produced
  - = Difference in unit cost per volume produced for either power or chemicals (B1)
  - X Should-be volume produced at the agreed NRW level (A-2)

C. Deduct (for disallowance) or add (for allowance) the results of (A) and (B) from/to the OPEX for the coming Years 1-5. Take note that the maximum ROI is not exceeded.

## **4 Water Rate Adjustments**

Water tariff may also be reviewed before the end of the five-year validity of the current tariff if there were extraordinary events that affected the operations of the utility.

These adjustments are done by recomputing the proper tariff for the remaining validity period of the tariff.

### **4.1 Appraisal**

Appraisal of assets is allowed if it is undertaken by a reputable independent appraiser. The results of the appraisal will need to be submitted when requesting for water rates approval since it affects the value of the asset rate base.

### **4.2 Extraordinary Price Adjustments**

A water utility may request for a tariff adjustment even before the end of the five-year validity period should there be extraordinary events beyond the control of the operator that affected its operations. This may include an extraordinary increase or decrease in power cost for a given year, legislated wage increases, service area extension or force majeure.

## **5 Sanctions**

If a water utility willfully violates NWRB regulations on tariff setting, any or all of the following sanctions will be imposed:

1. Effects of non-conformance to agreed targets in the determination of the approved tariff will be deducted from the revenue requirements for the next five-year period.
2. The CPC of the utility shall not be extended.
3. An administrator shall be assigned to manage the utility until compliance is attained. Expenses related to the assignment shall be borne by the utility.
4. A performance bond will be required from the utility operator, which will be forfeited in case of breach of contract.

## **6 Application for CPC and Tariff Approval**

### **6.1 Application for Initial CPC and Tariff Approval**

#### **6.1.1 Documentary Requirements**

The following documents are required to be submitted for an initial application for a CPC and approval of tariff:

1. For corporations and partnerships:
  - a. SEC registration;
  - b. Articles of incorporation or partnership;
  - c. By-laws; and

- d. Board resolution authorizing the signatory to sign and file the application
2. For single proprietorships:
  - a. Registration with the Department of Trade and Industry or Mayor's Permit and
  - b. Special power of attorney authorizing the signatory to sign and file the application
3. Approved water permit(s)
4. Official receipt of Annual Water Charge(s)
5. Clearance that applicant has no unpaid fees and charges from NWRB
6. Plan of water distribution system
7. Plan, elevation and cross-sectional views of tank/reservoir
8. Plan, elevation and cross-sectional views of pump house, machinery and equipment
9. Certificate of potability
10. Latest audited financial statements for the last two years
11. Actual Balance Sheet showing balance sheet items for water operations for the last two years<sup>12</sup>. If a complete Balance Sheet cannot be prepared, the following accounts pertaining to the water operations for the last two years must be provided. The net effect of these accounts will be assumed to be the capital for the water operations.
  - a. Accounts Receivable – Water Supply
  - b. Materials Inventory
  - c. Property and Equipment In Service, at cost
  - d. Accumulated Depreciation
  - e. Customers' Deposits
12. Itemized list of assets entitled to return as of the end of the last historical year. This should support the Property and Equipment in Service referred to in Item 11 (c) above.
13. Actual Income Statement showing income statement items for water operations for the last two years<sup>13</sup>
14. Business Plan for the next five years
15. Projected financial statements for water operations for five years, with the following:
  - a. Income Statement
  - b. Balance Sheet
  - c. Assumptions
16. Itemized list of new investments for the next five years
17. Proposed schedule of water rates
18. Levels of Service agreed with consumers commensurate with proposed rates

### **6.1.2 Application Process and Period**

Utilities are encouraged to conduct prior consultation with customers/customer representatives to agree on levels of service commensurate with the proposed tariff, and to undertake the optional preliminary review with NWRB's deputized economic agents before filing the tariff proposal with NWRB. The major steps in the process for the application for a CPC and corresponding approval of water rates are shown in Table 6-1 below.

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<sup>12</sup> These reports are required for water utilities that have business ventures other than its water operations.

<sup>13</sup> Ibid.

**Table 6-1 CPC and Tariff Approval Process**

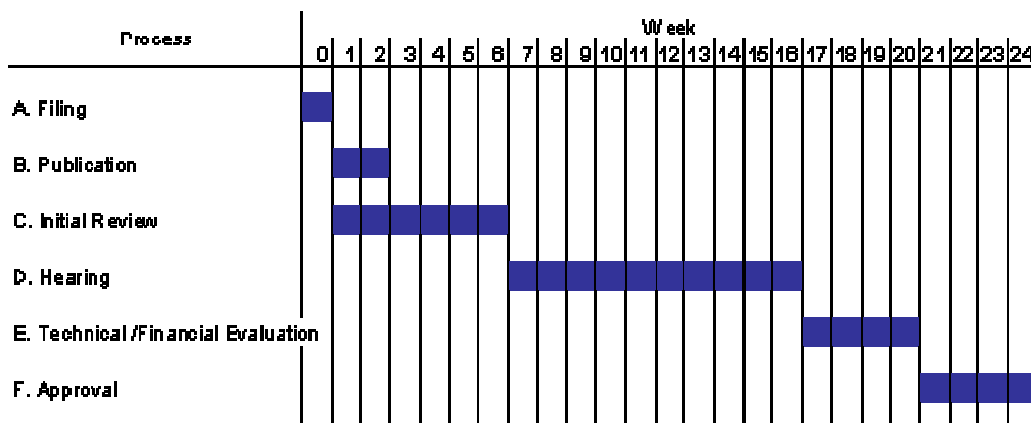
<b>Responsible Unit</b>	<b>Activity</b>
<b>A. Filing</b>	
Applicant	<ol style="list-style-type: none"> <li>1. Fills up application form in 6 copies.</li> <li>2. Submits application form and documentary requirements to NWRB.</li> </ol>
Registration and Licensing Section	<ol style="list-style-type: none"> <li>3. Examines completeness of documentary requirements.</li> <li>4. If complete, assesses filing fee due.</li> <li>5. Prepares the Confirmation of Payment containing the assessment and gives this to the Applicant.</li> </ol>
Applicant	<ol style="list-style-type: none"> <li>6. Applicant pays the filing fee to the Cashier.</li> </ol>
Registration and Licensing Section	<ol style="list-style-type: none"> <li>7. Records OR number on all copies of Application Form.</li> <li>8. Files Application Form (original) with supporting documents in Case Folder.</li> <li>9. Assigns case number to application and records this in the Docket.</li> <li>10. Sends copies 2-6 to applicant for further distribution.</li> <li>11. Forwards Case Folder to Director's office for disposition of the case.</li> </ol>
Office of the Executive Director	<ol style="list-style-type: none"> <li>12. Orders disposition of the case for preliminary review.</li> </ol>
Registration and Licensing Section	<ol style="list-style-type: none"> <li>13. Calendars hearing date.</li> <li>14. Prepares Notice of Hearing in 2 copies.</li> <li>15. Obtains signature of Notice of Hearing by Executive Director.</li> <li>16. Sends a certified copy of Notice of Hearing to applicant.</li> <li>17. Files Notice of Hearing in the Case Folder.</li> </ol>
<b>B. Publication</b>	
Applicant	<ol style="list-style-type: none"> <li>18. Receives the certified copy of the Notice of Hearing.</li> <li>19. Based on this, publishes Notice of Hearing and proposed water rates at least 15 days prior to the scheduled Hearing date, in a daily newspaper of general circulation in the province or Metro Manila, whichever is applicable, where the service area of the utility is located.</li> <li>20. Makes additional copies of the Notice of Hearing and all attachments to the Application and distributes these together with the Application Form, to affected parties: <ul style="list-style-type: none"> <li>Copy 2 – Applicant's file</li> <li>Copy 3 – Homeowners' Association</li> <li>Copy 4 – Baranggay Chairman</li> <li>Copy 5 – Sangguniang Bayan</li> <li>Copy 6 – MWSS or Water District, or existing CPC grantee, if applicable</li> </ul> </li> </ol>

<b>Responsible Unit</b>	<b>Activity</b>
<b>C. Initial Review</b>	
Water Utilities Division	21. While waiting for the Hearing date, assigns the case for technical and financial review.
Registration and Licensing Section	22. Reviews the Case. This may be done simultaneously with the financial review. 23. Prepares a Technical Evaluation Report 24. Files report in the Case Folder.
Water Rates Evaluation Section	25. Reviews the Case. This may be done simultaneously with the technical review. 26. Prepares a Financial Evaluation Report. 27. Files report in the Case Folder.
<b>D. Hearing</b>	
Hearing Officer, Litigation and Adjudication Section	28. Hears presentation of the documentary requirements and other evidence of the applicant. 29. Based on the technical and financial evaluation reports, orders applicant to implement recommended actions. 30. Hears presentation of the documentary requirements and other evidence of the oppositor, if he intends to. 31. If there is no opposition, submits case for resolution.
Applicant	32. Submits Formal Offer of Evidence within 15 days after the Hearing.
<b>E. Financial and Technical Evaluation</b>	
Registration and Licensing Section	33. Based on proceedings of the Hearing, checks compliance with additional requirements. 34. Completes technical evaluation of the case with field visit if necessary. 35. Updates technical evaluation report. 36. Files report in Case Folder.
Water Rates Evaluation Section	37. Based on proceedings of the Hearing, checks compliance with additional requirements. 38. Completes financial evaluation of the case, with field visit if necessary. 39. Updates financial evaluation report. 40. Files report in Case Folder.
Hearing Officer, Litigation and Adjudication Section	41. Consolidates the Technical and Evaluation Reports and prepares the Memo for Board Action and Draft Decision.
<b>F. Approval</b>	
Deputy Executive Director	42. Reviews the case and endorses approval to the Executive Director
Executive Director	43. Recommends approval of the case to the Board Vice Chairman and Board
Board Vice Chairman	44. Validates recommendation of the Executive Director
NWRB Board of Directors	45. Deliberates on the case. 46. If there are questions, returns the case folder to the Water Utilities Division to resolve the issues. 47. If there are no questions, issues Board Resolution approving the CPC and tariff rates.

Responsible Unit	Activity
<b>G. Issuance of CPC</b>	
Registration and Licensing Section	48. Logs resolution of the case in the Docket. 49. Prepares CPC in two copies (for the applicant and for NWRB files) and submits this for signature by the Executive Director 50. Informs Applicant about the approval of the application for a CPC and tariff for implementation. 51. Prepares Confirmation of Payment for the payment of the fee for the CPC Certificate/Diploma and other unpaid fees and corresponding penalties, if any.
Applicant	52. Pays the fees and penalties, if applicable.
Registration and Licensing Section	53. Upon payment, issues the CPC to the applicant together with a copy of the Board Resolution containing the approved water rates for implementation.

All the above steps towards approval of the CPC and rates for implementation will take approximately 24 weeks or 6 months, as can be seen from Table 6-2 below.

**Table 6-2 Application Processing Period**



## 6.2 CPC Validity Extensions and Subsequent Tariff Adjustments

### 6.2.1 Documentary Requirements

The CPC has to be renewed every five years, at the same time that subsequent tariffs have to be reviewed. At this time, the following requirements need to be submitted:

1. Board resolution (for corporations and partnerships) or special power of attorney (for single proprietorships) authorizing the signatory to sign and file the application
2. Approved water permit(s)
3. Official receipts of Annual Water Charges
4. Official receipt of Supervision and Regulation Fee
5. Clearance that applicant has no unpaid fees and charges from NWRB
6. Plan of water distribution system



7. Plan, elevation and cross-sectional views of tank/reservoir
8. Plan, elevation and cross-sectional views of pump house, machinery and equipment
9. Certificate of Potability
10. Annual Reports for the last five years
11. Latest audited financial statements for the last five years
12. Actual Balance Sheet showing balance sheet items for water operations for the last five years<sup>14</sup>. If a complete Balance Sheet cannot be prepared, the following accounts pertaining to the water operations for the last five years must be provided. The net effect of these accounts will be assumed to be the capital for the water operations.
  - a. Accounts Receivable – Water Supply
  - b. Materials Inventory
  - c. Property and Equipment In Service, at cost
  - d. Accumulated Depreciation
  - e. Customers' Deposits
13. Itemized list of assets entitled to return as of the end of the last historical year. This should support the Property and Equipment in Service referred to in Item 9 (c) above.
14. Actual Income Statement showing income statement items for water operations for the last five years<sup>15</sup>
15. Business Plan for the next five years
16. Projected financial statements for water operations for five years, with the following:
  - a. Income Statement
  - b. Balance Sheet
  - c. Assumptions
17. Itemized list of new investments for the next five years
18. Proposed schedule of water rates
19. Levels of Service agreed with consumers commensurate with proposed rates

## **6.2.2 Application Process and Period**

The procedures involved for CPC validity extension and subsequent tariff adjustments are basically the same as those for the review of the initial water rates.

The difference is in the financial and technical review. At this stage, there is now a review of the performance of the utility during the last five years to check that the approved water rates and the promised levels of service and investments were attained as projected. If the levels of service and investments were not attained, there will be a commensurate downward adjustment to the proposed tariff of the next CPC period.

Because of the additional review procedures, the total time for approval of subsequent tariff adjustments may take about seven months.

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<sup>14</sup> These reports are required for water utilities that have business ventures other than water operations

<sup>15</sup> Ibid.

## **7 Preparation and Filing of the Annual Report**

### **7.1 General Rules**

The Annual Report is a compilation of data pertaining to a water utility operator who has been issued a Certificate of Public Convenience/ Certificate of Public Convenience and Necessity (CPC/CPCN)<sup>16</sup>. It depicts the financial condition and other essential data relative to the operation of the water utility. It contains vital information that will be used in the regular performance monitoring of the water utility and also in the formulation of water tariff. As such, the Annual Report must be audited by an external auditor and its truthfulness, accuracy and completeness sworn to by the Operator of the water utility or his authorized representative, before a notary public.

The Annual Report must be filed annually before the NWRB on or before May 31 of every year. The report must be prepared in at least two copies, with the original to be submitted to NWRB, and the duplicate retained by the CPC/CPCN grantee for its files. Failure to submit on time will result to the imposition of corresponding penalty charges on the CPC/CPCN grantee.

The Annual Report may be prepared using the MS Excel template that is available from NWRB. This template already includes the formulas that may be needed in filling in some data. The contents of the Annual Report may not be altered, especially the format for the Auditor's Certificate and the Affidavit. But the CPC/CPCN Grantee may add information that it deems important to be known by NWRB for regulation and monitoring purposes.

It is advised that Section 18 - Financial and Technical Data Sheet be prepared monthly to facilitate the collection of the year-to-date data, although it is not required to be submitted to NWRB. Only the end of the year sheet is required to be attached to the Annual Report.

The Annual Report format is shown in Annex A.

### **7.2 Detailed Implementing Guidelines**

#### **7.2.1 Information Sheet**

##### **1. Business Name or Name of the Authorized Water Operator**

State the exact name of the registered business name of the water utility or the name of the authorized water operator.

##### **2. Office Address**

State the complete office address of the water utility where all communications relative to operation shall be forwarded.

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<sup>16</sup> This is in accordance with Section 17 of the Public Service Law and as specified under NWRB's Board Resolution No. 04-0588 dated May 13, 1988.

### **3. Telephone, Fax Numbers and Email Addresses**

List all telephone and fax numbers, including email address, if any, on the space provided. The contact numbers that will be placed here shall be for water utility business operations only.

### **4. Service Area**

Identify and indicate the location of the service area/s (name of barangays) currently served by the water utility.

### **5. CPC/CPCN Case Number**

Indicate the original case number of the CPC granted by NWRB and write down the date of validity.

Indicate also the existing CPC case number and the date of validity. This applies to water utilities which have renewed their license to operate.

### **6. Form of Business Organization**

In Item 6a, place a check on the box provided for the appropriate form of business organization of the water utility. Water utilities are classified either as a single proprietorship, partnership, corporation, LGU managed, association, or cooperative.

If your water utility is not classified in the foregoing, place a check on the box provided for "Others" and specify the nature of your business operation.

In Item 6b, write the exact date of registration or incorporation of the water utility with the Security and Exchange Commission (SEC), Department of Trade and Industry (DTI) or with the Cooperative Development Authority (CDA) for water cooperatives.

### **7. Custodian of Books of Accounts**

Indicate the name and position of the person who is responsible in keeping and maintaining the books of accounts of the water utility. The person appointed as custodian shall be responsible for all the financial transactions related to the water utility. He/she shall also be responsible in addressing all the queries/comments from NWRB with regards to the data inputted in this Annual Report. This does not, however, absolve the executive officers or the members of the board of directors of the grantee from any liability as approving officers of the utility's transactions.

### **8. Last Annual Report**

State the year of the last Annual Report filed and submitted to NWRB and the date it was sent to NWRB office.

## **9. Latest Payment of Supervision and Regulation Fee (SRF) and Annual Water Charge (AWC)**

In Item 9a, indicate the applicable year of payment, amount paid, official receipt number and date of payment of the latest payment made for the water utility's supervision and regulation fee (SRF).

The SRF is billed annually between June 1 to September 30 of every year to all CPC grantees based on the actual amount of property and equipment or cost of capital stock whichever is higher. The SRF is due and payable on or before September 30 of every year. A corresponding penalty is imposed on the operator for failure to pay on time.

In Item 9b, indicate the water permit number, year of applicability of the annual water charge payment, amount paid, official receipt number, and date of payment of the latest payment made for the Annual Water Charge/s (AWC).

The AWC is billed annually based on the water permit granted and the pressure/volume of water extracted from the deepwell (in terms pounds per square inch, PSI). If the water utility has more than one water permit, all the pertinent data for all the water permits must be indicated in the Annual Report. Likewise, for failure to pay the AWC on time a corresponding penalty is imposed on the operator.

## **10. Board of Directors**

For a water utility corporation, list down the names and corresponding position (i.e. Chairman, Vice-Chairman, Treasurer, Member, etc.) of the present members of the board of directors of the water utility only.

Specify the term of office of each director (number of years stay in the board) and the inclusive date of appointment.

For single proprietorship or partnership, list down the names and positions of the owner and/or partners who is/are responsible in the policy making of the utility and the inclusive dates of appointment, if applicable.

For the other forms of business organization, list down the names, corresponding position, term and inclusive dates of appointment, if applicable, of persons who are members of the governing or policy making body of the utility.

Note: If the space provided in the report is insufficient, use a separate sheet and attach them to the Annual Report.

## **11. Executive Officers**

List the complete names of all executive officers who are responsible in running the day-to-day operations of the water operations only. Executive officers include the top management officials such as the President (or General Manager), Vice-President or equivalent position, Treasurer and other officers included in the top management.

Indicate the corresponding position, date of appointment and status of appointment (permanent, contractual, etc) of each officer of the water utility.

Note: If the space provided in the report is insufficient, use a separate sheet and attach them to the Annual Report.

## 12. Water Rate Structure

The water rates that will be placed here must be the rates recently approved by NWRB and is presently implemented by the water utility.

Write down the date (month and year) of effectivity and the period of validity of the existing water rates.

For piped water consumers, write down in the appropriate column the water rates in pesos per cubic meter billed for the applicable consumption block.

For bulk water sales (water peddlers or shipchandlers), indicate the price per liter, per gallon, etc. on the column provided. If you are using other unit of measurement (other than liter or gallon) state the price under the "Other Measurement" column and specify the unit of measurement currently used by the water operator.

## 13. Customers' Blocking

For each customer's classification, indicate the number of active connections and the monthly average consumption (in cubic meters) of all these connections for every water meter size. The sum of all the connections should tally with the total connections declared in Item 18.1 on Service Connection Data. Ensure that these data are accurately stated since these will be used for any water rate adjustments.

## 7.2.2 Income Statement

Figures to be used in this section shall come from the audited financial statements of the water utility for the end of the current year (year of the Annual Report) with comparative figures for the previous year. Operating revenues and expenses pertaining to non-regulated operations of the water utility should be excluded.

The "This Year" column pertains to figures for the current year. The "Last Year" column pertains to figures for the previous year. If an account title is not used, or there is no expense for the year, write zero (0).

The "% Increase / Decrease" column pertains to the variance in percent between the two years. It is calculated as follows:

$$\% \text{ Increase (Decrease)} = \frac{\text{This year} - \text{Last year}}{\text{Last year}} \times 100\%$$

The Income Statement accounts are grouped into Operating Revenues, Operating Expenses, and Net Non-Operating Revenues/(Expenses). Their details are itemized below.

## **1. Operating Revenues**

The operating revenues are composed of the following accounts:

- a. Water Sales
- b. Penalty Charges
- c. New Connection Fees
- d. Other Water Revenues

All other revenue accounts used by the water utility but not mentioned above (such as reconnection fees, service connection materials, water meters, etc.) shall be classified and lumped into the "Other Water Revenues" account.

Sum-up all the revenue accounts and placed the total under "Total Operating Revenues".

## **2. Operating Expenses**

Operating expenses are composed of the following accounts:

- a. Personnel Costs
- b. Management Fees
- c. Power
- d. Chemicals
- e. Repairs and Maintenance
- f. Bulk Water Purchase
- g. Bad Debts
- h. Annual Water Charge
- i. Supervision and Regulation Fee (SRF)
- j. Franchise Tax
- k. Depreciation
- l. Interest Expense
- m. Other O & M Costs

In filling up this portion, classification of expenses of the water utility is limited to the above accounts. All other expenses not mentioned above but part of the regular expenses of the water utility shall be totaled and placed under "Other O & M Costs". Note that the foregoing are also the account titles used in tariff model formulation.

All expenses related to salaries such as overtime pay, SSS/GSIS contributions, pag-ibig contribution, 13th month pay, bonuses, Phil-health, etc, shall be lumped together or summarized into "personnel costs".

Sum-up all expense accounts and placed the total under "Total Operating Expenses".

## **3. Net Non-Operating Revenues / (Expenses)**

These refer to non-operating revenues, net of non-operating expenses related to the water operations.

### 7.2.3 Balance Sheet

Figures to be used in this section shall come from the audited financial statements of the water utility for the end of the current year (year of the Annual Report) with comparative figures for the previous year.

The “This Year” column pertains to figures for the current year. The “Last Year” column pertains to figures for the previous year. If an account title is not used, or there is no expense for the year, write zero (0).

The “% Increase / Decrease” column pertains to the variance in percent between the two years. It is calculated as follows:

$$\% \text{ Increase (Decrease)} = \frac{\text{This year} - \text{Last year}}{\text{Last year}} \times 100\%$$

The classification of Balance Sheet accounts in the Annual Report has been simplified to reflect only those accounts that are considered significant for monitoring purposes. The water utility operator must reclassify its accounts to fit into these classifications. Other accounts may be lumped in the appropriate accounts, such as “Other Current Assets”, “Other Assets”, “Other Long-term Liabilities”, “Other Current Liabilities”, and “Other Liabilities and Deferred Credits”.

The amount declared in the property and equipment in service must reconcile with the total amount stated in Item 16 “Breakdown of Property and Equipment in Service”.

The net book value of equipment in service and/or the cost of capital stock that will be declared shall be the basis of computing the Supervision and Regulation Fee (SRF). Improper statement or mis-declaration of actual amounts will cause erroneous billing of the SRF.

For water utility operators who have other lines of business that are not regulated by NWRB (like sale of bottled water or sale of plumbing materials), the Balance Sheet accounts for the water utility operations must be declared. If this is not feasible, the following accounts must be declared:

- a. Accounts Receivable – Water Supply
- b. Materials Inventory
- c. Property and Equipment In Service, at cost
- d. Accumulated Depreciation
- e. Customers’ Deposits

The difference between the assets and liabilities will be assumed as the capital for the water supply operations.

### 7.2.4 Breakdown of Property and Equipment in Service

This section pertains to property and equipment of the water utility that are used in service, regardless of their funding source (donated or received as grant, loan, internal cash generation or other source), and whether they are entitled to return or not.

For uniformity of charging depreciation, assets of the water utility operator should be classified according to the recommended accounts in Section 16 of the Annual Report, and to use the NWRB-recommended useful life in determining depreciation.

Columns that are required to be filled up in Section 16 are enumerated below. The other columns are automatically calculated under Excel, should the Excel version of the Annual Report be used.

- a. Year of the annual report at the heading
- b. Year the asset was acquired (column c)
- c. Cost of the asset (column d)
- d. Classification of the asset by funding source, into:
  - Donations or grant (column e)
  - Loan (column f)

The Excel version of this Annual Report contains formulas in Section 16 that would automatically compute the amount of assets funded by other sources (column g), classify assets whether entitled to return (column i) or not (column h). It also calculates depreciation expense (column i) based on the useful life of the asset (column b), accumulated depreciation (column k) and net book value (column l). This is why the year of the annual report is important to be filled up, especially the Excel version, since this year is compared with the acquisition year of the asset to calculate the accumulated depreciation.

#### Useful life

The useful life (column b) stated in the report is the estimated life of each asset as approved by NWRB. Verify/check each item and compare with the useful life being used by your water utility in computing the annual depreciation. In case of discrepancy, (and for uniformity of all CPC grantees), follow the useful life indicated in the Annual Report and adjust your accounting records accordingly.

#### Year Acquired

Indicate only the year when the asset was acquired or purchased. If under each classification, there are multiple years of acquisitions (such as in service connections, office equipment, vehicles etc.) insert additional rows for each acquisition year. If using the Excel version of the Annual Report, insert an entire row including the formulas, then copying the corresponding useful life for the asset. This is illustrated below.

<u>Description</u>	<u>Useful Life</u>	<u>Year Acquired</u>
Service Connection	5	1991
Service Connection	5	1994
Service Connection	5	1998

#### Amount per Balance Sheet

Indicate the exact amount of each property and equipment account per balance sheet (audited). The total of this column should tally with the amount declared in the Balance Sheet section of the Annual Report, Item 15.



### Funding Source

Determine the source of funding used in the purchase of the property whether it was a grant (donated properties fall under this category), loan or procured from the internal funds or other sources of the water utility.

For each line of asset, indicate how much were acquired by grant, loan or from internal funds/other sources.

### Classification if Entitled to Return

From the total amount of each asset category indicate how much are entitled to return or not. Assets acquired through donations or grants are automatically not entitled to return. All other assets funded otherwise are entitled to return.

### Annual Depreciation

Under each asset category, compute the annual depreciation using the estimated useful life (column b) and straight line depreciation method or the existing method used by your water utility.

The water utility must be consistent in adopting the same depreciation method for all assets.

### Accumulated Depreciation

Indicate the accumulated depreciation of each property. This is computed by multiplying the annual depreciation of the property by its age. The accumulated depreciation should not exceed the cost of the property. The sum of this column may be different from the operator's accounting records because of the rounding of the acquisition date and the useful life used. In case of differences, the calculations under this Section shall prevail.

### Net Book Value

Calculate the "Net Book Value" of each line of asset by using this formula:

$$= \text{Cost per Balance Sheet} - \text{Accumulated Depreciation}$$

## **7.2.5 List of Capital Investments**

This portion pertains to new capital investments put in by the water utility operator during the current year. These investments should be classified according to the asset classification in Section 17 of the Annual Report based on their useful lives.

## **7.2.6 Financial and Technical Data Sheet**

The financial and technical data sheet contains vital information with regards to the operation of a water utility. It will be used in formulating the water industry averages and benchmarking for CPC grantees and likewise the basis of calculating Key Performance Indicators (KPIs).

This data sheet should be prepared monthly or quarterly by the water utility operator for regular monitoring of its financial performance. But for the purpose of preparing

the annual report as required by NWRB, only the “December” figures shall be written in the “This Month” column and the accumulated figures to be stated in the “Year to Date” column. If the data sheet is for a given quarter, change the “This Month” column into “This Quarter” and indicate what quarter figures are used.

The Accounting and Administrative Units of the water utility shall be responsible in preparing/supplying the necessary data for items 1 to 4, while Engineering /Maintenance Unit shall be responsible for filling up the Water Production Data, Item 5.

## 1. Service Connection Data

### Active Service Connection

Active service connections pertain to the actual number of connections that are presently or regularly billed, whether they are metered or flat rate customers.

Classify the customers according to residential, commercial/industrial and public taps.

Sum-up the figures and indicate the monthly and the year-to-date (YTD) totals in their corresponding columns.

The sum of all the active service connections in this section should be the same as the sum of the number of connections reported in Section 13, Customers’ Blocking.

### Changes

Calculate the monthly and annual changes with regards to new service connections, reconnected connections and disconnected services and place them properly under their respective lines in the report.

### Customer in Arrears

Determine the total number of customers in arrears or who are not paying their bills on time.

Calculate the percentage (%) of connections in arrears in relation to the total number of service connections and indicate the result under the “% to total” section. The formula is:

$$\% \text{ to Total} = \frac{\text{Number of Customers in Arrears}}{\text{Total Number of Customers}}$$

### Population

Determine the present population in the franchised service area/s and input them in the “Year-to-Date” column. (Monthly data with regards to population need not be stated).

Population data periodically issued by the National Statistics Office (NSO) or the latest survey conducted by the barangay council, if any, may be used to indicate the service area population. For subdivisions, the service area population is the total number of persons in the subdivision at full occupancy.

Also, determine the total number of served population and input them in the “Year-to-Date” column (Monthly data with regards to population need not be stated). Served population is the actual number of persons presently benefiting from the services of the water utility, computed by multiplying the number of residential connections by the average persons per household.

Compute the “% served” to find out how much of the service area population is being served at present by the water utility. The resulting figure must be expressed in percentage. The formula to calculate % Served is:

$$\% \text{ Served} = \frac{\text{Served Population}}{\text{Service Area Population}} \times 100$$

## 2. Personnel Data

Indicate the total number of employees (include part-time employees) as of the year-end in the column provided. If the CPC grantee has business operations other than the regulated water utility operations, only the employees for the water utility operations shall be stated. For part-time employees, indicate only the time spent with the water utility, such that if 2 employees render 50% each of their time with the water utility, the 2 employees will be counted only as 1. Monthly data on number of employees need not be stated in this section.

Calculate the number of connections per employee and state the figure under the year-to-date column. The active number of service connections that will be used here shall be the same as the figure stated in 1.1 of the Financial and Technical Data Sheet. The formula is as follows:

$$\text{No. of Connections/Employee} = \frac{\text{Total Active Service Connections}}{\text{Total Employees}}$$

Also, calculate the average monthly salary per employee and indicate under the year-to-date column. The formula is:

$$\text{Average Monthly Salary} = \frac{\text{Total Personnel Costs}}{\text{Total Employees}}$$

Ensure that the amount of personnel costs used in the formula tally with the amount stated in the Income Statement.

## 3. Billing and Collection Data

As mentioned in the first paragraph of item 16, the December figures shall be placed under the “This Month” column while the accumulated water sales (total from January to December) shall be stated on the “Year-to-Date” column.

### Billing (Water Sales)

Determine the total water sales for the month and the accumulated water sales for the year and place them on their respective columns. Only the billings with regards to water sales and penalty charges shall be stated in this section, other sources of revenues of the water utility need not be indicated here. A summary of monthly billings should be prepared regularly to facilitate filling up of this section.

Sum-up the revenues and put the total under the “Total” section.

Collection (Water Sales)

Classify the total collections for the month into current, arrears (current year) and arrears (previous years).

For the monthly data:

Current accounts refer to collection of bills issued during the month.

Arrears (current year) refer to collections during the month out of bills issued during the year.

Arrears (previous years) refer to collections during the month out of bills issued during the past years.

For the Year-to-Date data, accumulate the figures reported in the previous months for Current Accounts, Arrears (Current Year) and Arrears (Previous Years).

Collection Efficiency

Calculate the on-time payment and overall collection efficiency and express these in percentage. Below are the formulae:

On-Time Payment

$$\% \text{ of On Time Payment} = \frac{\text{Current Collections}}{\text{Water Sales}} \times 100$$

Overall

$$\text{Overall Collection} = \frac{\text{Total Collections}}{\text{Water Sales}} \times 100$$

**4. Financial Data**

Water Revenues

From the audited income statement, calculate the total operating revenues per month and year-to-date and indicate the total amount on their respective columns. Operating revenues refer to all regular income related to the water operation such as water sales, penalty charges, new connection fees, other water revenues.

Indicate also the total non-operating revenues per month and year-end figures. Non-operating revenues cover unusual income generated from the water utility operation (such as gain on sale of asset, dividend/interest arising from the investment funds of the water utility, etc).

Expenses

Also, based from the monthly/quarterly/annual income statement, indicate the individual cost of the expense accounts. Other expense items not specified in item 4.2 of the Financial Data (Expenses) but contains material amount, shall be added to the list of expenses (material amount is 5% of the total operation and maintenance

costs). However, if the amount is in-material, classify/include under “Other O & M Costs”.

The formulae to compute the sum of water revenues and operating expenses and to arrive at “net income (loss) before income tax” are already included in the program. Countercheck the formula for the accuracy of the results.

## **5. Water Production Data**

The Engineering and/or Maintenance Unit of the water utility shall be responsible in providing the data in this portion.

The data required are for both the “This Month” and “YTD” columns.

### Volume Produced and Purchased

Determine the volume of water produced and purchased (in cubic meters). Classify them into:

- a. pumped water,
- b. gravity-fed, or
- c. bulk water purchases

### Volume of Billed Water

Determine the volume of water billed (in cubic meters) from the following classes of customers from the water bills issued:

- a. Metered customers
- b. Un-metered or flat rate customers

Sum-up the metered and flat rate billed water to arrive at volume of water billed.

Metered billed volume is the sum of the billed consumption (in cubic meters) from metered connections.

Unmetered billed volume is the estimated volume of water billed (in cubic meters) from flat rate customers who have no water meters installed. The average monthly consumption of the metered customers is generally used in the absence of a more accurate method. This average volume is multiplied by the number of un-metered connections to get their estimated billed volume.

### Water Use Assessment

This section collects the following data:

- a. Average consumption per connection per month (in cubic meters), by consumer category
- b. Average consumption per capita per day (in liters)
- c. % of non-revenue water

Calculate the average monthly consumption per connection in terms of cubic meters of residential, commercial/industrial and public tap customers, as shown below. These averages must tally with the figures written in Section 13, Customers' Blocking.

$$= \frac{\text{Total volume billed or sold per category (for the month or for the year)}}{\text{Number of customers per category (for the month or for the year)}}$$

Place the average monthly consumption of each category (residential, commercial/industrial, public tap) under the "This Month" column. Ensure that the resulting figure for YTD shall not accumulate the monthly figure of average consumption.

Determine the average consumption per capita per day of residential customers only and express this in liters. Commercial/industrial and public tap consumers is not required. Per capita per day is the average water consumed by every member of the household within a day. Below is the formula:

$$\begin{aligned} &\text{Average consumption per capita/day (liters)} \\ &= \frac{\text{Ave. monthly consumption (in cu. m)} \times 1000}{\text{Ave. person per household} \times 30 \text{ days}} \end{aligned}$$

**Note:** Use the average monthly consumption as computed in 5.3.a.1 (residential) of the Financial and Technical Data Sheet. For the average person per household, use the available data within the service area or the NSO data of your municipality/city where the water utility operates.

Non-revenue water in percentage is computed as follows:

$$= \frac{\text{Total Volume Produced and Treated Water Purchased} - \text{Total Volume Billed}}{\text{Total Volume Produced and Treated Water Purchased}}$$

#### Other Water Production Data

Determine and indicate the actual data under each of the following:

- a. Capacity of reservoir/s (in cubic meters)
- b. Number of operating pumps

For each of the pumps, indicate the following:

- a. Average number of operating hours per pump
- b. Average production per pump (in GPM)
- c. Average number of kilowatt hours consumed per pump
- d. Total kilowatt hours consumed by all pumps

If there are more pumps than the number provided in the form, use a separate sheet and attach this to the Annual Report.

#### **6. Water Production Data**

Determine and indicate the actual data under each of the following:

- a. Range of water pressure, in psi
- b. Water pressure for 80% of the service area, in psi

### **7.3 Audit Certificate**

The financial statements that should be presented in this annual report must be audited by an External Auditor. The External Auditor may be an auditing firm or an individual Certified Public Accountant (CPA).

The same auditor who signed the audited financial statements shall issue an audit certificate with regards to this annual report. He/she must also indicate his/her Professional Tax Receipt (PTR) number, and its date and place of issuance below his signature.

The absence of the audit certificate in the Annual Report shall invalidate its contents.

### **7.4 Affidavit**

The affidavit shall be executed by the Operator of the water utility or any other authorized representative who can attest to the accuracy, validity, truthfulness, and completeness of all the information written in the Annual Report.

The affidavit shall be sworn to before a Notary Public. The absence of this notarized affidavit in the Annual Report shall likewise invalidate its contents.

## Annex 1. Annual Report Format

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*Name of Water Utility Operator*

NWRB Code No. \_\_\_\_\_

Year: \_\_\_\_\_

# ANNUAL REPORT OF AUTHORIZED WATER UTILITY OPERATORS

Republic of the Philippines  
**NATIONAL WATER RESOURCES BOARD**  
8<sup>th</sup> Floor NIA Building, EDSA, Quezon City



<b>ANNUAL REPORT FOR WATER UTILITY OPERATIONS</b>					
<b>1. Business Name of Water System or Name of Authorized Water Operator</b>					
<b>2. Office Address</b>					
<b>3a. Telephone Numbers</b>		<b>3b. Fax Numbers</b>		<b>3c. E-mail Address</b>	
<b>4. Location of Service Area of Water Utility</b>					
<b>5. CPC/CPCN</b>					
		<b>Case No.</b>		<b>Validity Date</b>	
Original					
Existing					
<b>6.a Form of Business Organization of the Water Utility</b>					
<input type="checkbox"/> Single Proprietorship		<input type="checkbox"/> Association			
<input type="checkbox"/> Partnership		<input type="checkbox"/> Cooperative			
<input type="checkbox"/> Corporation		<input type="checkbox"/> Others (please specify)			
<input type="checkbox"/> LGU Managed					
<b>6.b Date of Incorporation/Registration of Water Utility</b>					
<b>7. Custodian of Books of Accounts</b>					
Name			Position		
<b>8. Last Annual Report Submitted to NWRB</b>					
Report Year			Date Submitted		
<b>9. Latest Payment of NWRB Fees</b>					
Kind of Fee	Water Permit No.	Year	Amount Paid	OR No.	Date Paid
a. Supervision and Regulation Fee					
b. Annual Water Charge					

10. Board of Directors			
Name	Position	Term	Inclusive Dates of Appointment

11. Executive Officers			
Name	Position	Date of Appointment	Status

12. Water Rate Structure			
Effectivity	From	To	
Residential / Institutional / Public Taps		Commercial / Industrial	
Consumption, cu. m.	Peso / cu.m.	Consumption, cu. m.	Peso / cu.m.
0 - 10		0 - 25	
11 - 20			
21 - 30		26 - 1000	
31 - 40			
41 - 50		Over 1000	
Over 50			
BULK SALES	Peso / Liter	Peso / Gallon	Peso / *
Selling Price per Unit			

\* Specify unit

13. Customers' Blocking						
Meter Size	Public Taps		Residential / Institutional		Commercial / Industrial	
	# Connections	Ave. Cons./Mo.m3	# Connections	Ave. Cons./Mo.m3	# Connections	Ave. Cons./Mo.m3
1/2"						
3/4"						
1"						
1 1/2"						
2"						
3"						
4"						
TOTAL	-		-		-	

**14. Income Statement**

For the Years Ended \_\_\_\_\_ and \_\_\_\_\_

Account Title	This Year	Last Year	% Increase/ (Decrease)
<b>OPERATING REVENUES</b>			
Water Sales			-
Penalty Charges			-
New Connection Fees			-
Other Water Revenues			-
Total Operating Revenues	-	-	-
<b>OPERATING EXPENSES</b>			
Personnel Costs			-
Management Fees			-
Power			-
Chemicals			-
Repairs and Maintenance			-
Bulk Water Purchase			-
Bad Debts			-
Annual Water Charge			-
Supervision and Regulation Fee			-
Franchise Tax			-
Depreciation			-
Interest Expense			-
Other O & M Costs			-
Total Operating Expenses	-	-	-
<b>NET INCOME</b>	-		-
Add: Net Non-Operating Revenues / (Expenses)			-
<b>NET INCOME (LOSS) BEFORE INCOME TAX</b>	-	-	-

**15. Balance Sheet**

As of December 31, 20\_\_\_\_ and 20\_\_\_\_

<b>ASSETS and OTHER DEBITS</b>	<b>This Year</b>	<b>Last Year</b>	<b>% Increase (Decrease)</b>
Properties and Equipment In Service (PPIS)			
Property and Equipment in Service			-
Accumulated Depreciation			-
Total PPIS, Net Book Value	-	-	-
Properties and Equipment Not In Service , Net Book Value			-
Construction Work in Progress			-
Investments			-
Depreciation Reserve Fund			-
Current Assets			
Cash on Hand and in Bank			-
Special Time Deposits			-
Accounts Receivables - Water			-
Other Accounts Receivable			-
Material and Supply Inventories			-
Accruals and Prepayments			-
Other Current Assets			-
Total Current Assets	-	-	-
Other Assets			-
<b>TOTAL ASSETS AND OTHER DEBITS</b>	<b>-</b>	<b>-</b>	<b>-</b>

Revised Guidelines on Tariff Setting and Regulation  
Rationalizing Tariff for Private Water Utilities Under the NWRB

<b>LIABILITIES AND STOCKHOLDER'S EQUITY</b>	<b>This Year</b>	<b>Last Year</b>	<b>% Increase (Decrease)</b>
<b><u>STOCKHOLDER'S EQUITY</u></b>			
Capital			
Capital Stock (Paid Up)			-
Donated Capital			-
Proprietor's Account (for partnership and single proprietorship)			-
Total Capital	-	-	-
Retained Earnings			
Appropriated			-
Un-appropriated			-
Total Retained Earnings	-	-	-
<b>TOTAL STOCKHOLDER'S EQUITY</b>	-	-	-
<b><u>LIABILITIES</u></b>			
Long-Term Liabilities			
Loans Payable			-
Advances from Affiliated Companies			-
Other Long-term Liabilities			-
Total Long-Term Liabilities	-	-	-
Current Liabilities			
Loans Payable, Current Portion			-
Notes Payable			-
Payable to Affiliated Companies			-
Interest Payable			-
Taxes Payable			-
Other Current Liabilities			-
Total Current Liabilities	-	-	-
Other Liabilities			
Customer's Deposits			-
Other Liabilities and Deferred Credits			-
Total Other Liabilities	-	-	-
<b>TOTAL LIABILITIES</b>	-	-	-
<b>TOTAL LIABILITIES AND STOCKHOLDER'S EQUITY</b>	-	-	-

Revised Guidelines on Tariff Setting and Regulation  
Rationalizing Tariff for Private Water Utilities Under the NWRB

	A	B	C	D	E	F	G	H	I	J
1	<b>16. Breakdown of Property and Equipment in Service</b>									
2	As of December 31, 0 (Year of Annual Report)									
3										
4					Funding Source			Classification if Entitled to Return		
5	Description	Useful Life	Year Acquired	0 Balance Sheet	Donations / Grant	Loan	Other Sources	Not Entitled	Entitled	Depreciation Expense
6										
7	a	b	c	d	e	f	g = d - e - f	h = e	i = d - h	j = d / b
8	Land						-	-	-	-
9	Deepwells and Pumphouses									
10	Deepwell casing	15					-	-	-	-
11	Pump assembly	10					-	-	-	-
12	Motor for submersible pump	5					-	-	-	-
13	Motor control for deepwell pump	7					-	-	-	-
14	Pump house-mixed materials	10					-	-	-	-
15	Pump house-reinforced concrete	40					-	-	-	-
16	Booster Station									
17	Pump house-mixed materials	10					-	-	-	-
18	Pump house-reinforced concrete	40					-	-	-	-
19	Pump assembly	20					-	-	-	-
20	Motor for booster and line turbine	5					-	-	-	-
21	Motor control for booster station	20					-	-	-	-
22	Reservoir									
23	Concrete reservoir	40					-	-	-	-
24	Steel overhead tank	25					-	-	-	-
25	Steel tank on ground concrete	30					-	-	-	-
26	Chlorinating Equipment	10					-	-	-	-
27	Pipelines									
28	Cast/ductile iron pipes	60					-	-	-	-
29	Steel pipes with cement lining	40					-	-	-	-
30	Steel pipes cylinder type	20					-	-	-	-
31	Asbestos and plastic pipes	30					-	-	-	-
32	Flow Meters	7								
33	Water Meters	7								
34	Service Connections	5					-	-	-	-
35	Valves and Chambers	30					-	-	-	-
36	Fire Hydrants	20					-	-	-	-
37	Building	40					-	-	-	-
38	Building Improvements	10					-	-	-	-
39	Office Furniture and Fixtures	10					-	-	-	-
40	Office Equipment	5					-	-	-	-
41	Vehicles	5					-	-	-	-
42	Tools and Equipment	5					-	-	-	-
43	<b>Total Property and Equipment in Service</b>				-	-	-	-	-	-

**17. LIST OF CAPITAL INVESTMENTS**

During the Year

Description	Useful Life (Years)	Amount
Land		
Deepwells and Pumphouses		
Deepwell casing	15	
Pump assembly	10	
Motor for submersible pump	5	
Motor control for deepwell pump	7	
Pump house-mixed materials	10	
Pump house-reinforced concrete	40	
Booster Station		
Pump house-mixed materials	10	
Pump house-reinforced concrete	40	
Pump assembly	20	
Motor for booste and line turbine	5	
Motor control for booster station	20	
Reservoir		
Concrete reservoir	40	
Steel overhead tank	25	
Steel tank on ground concrete	30	
Chlorinating Equipment	10	
Pipelines		
Cast/ductile iron pipes	60	
Steel pipes with cement lining	40	
Steel pipes cylinder type	20	
Asbestos and plastic pipes	30	
Flow Meters	7	
Water Meters	7	
Service Connections	5	
Valves and Chambers	30	
Fire Hydrants	20	
Building	40	
Building Improvements	10	
Office Furniture and Fixtures	10	
Office Equipment	5	
Vehicles	5	
Tools and Equipment	5	
<b>Total Investments During the Year</b>		-

**18. Financial and Technical Data Sheet**

<b>1 SERVICE CONNECTION DATA</b>	<b>Month of December</b>	<b>Year-to-Date (YTD)</b>
1.1 Active Service Connections		
a. Residential		
b. Commercial/Industrial		
c. Public Taps		
Total	-	-
1.2 Changes		
a. New Connections		
b. Reconnected		
c. Disconnected		
1.3 Customer in Arrears		
a. Number		
b. % to total		
1.4 Population		
a. Service Area Population		
b. Served Population		
c. % Served		
<b>2 PERSONNEL DATA</b>		<b>Year-to-Date (YTD)</b>
a. Total Employees		
b. No. of Connections / Employee		
c. Average Monthly Salary/Employee		
<b>3 BILLING AND COLLECTION DATA</b>	<b>Month of December</b>	<b>Year-to-Date (YTD)</b>
3.1 Billing		
a. Water Sales		
b. Penalty Charges		
Total	-	-
3.2 Collection		
a. Current Accounts		
b. Arrears (Current year)		
c. Arrears (Previous years)		
Total	-	-
3.3 Collection Efficiency		
a. On- Time Payment		
b. Overall		



4. FINANCIAL DATA			Month of December	Year-to-Date (YTD)		
4.1 Revenues						
a. Water Sales and Other Operating Revenues						
b. Non-operating Revenues (i.e., Interest income)						
Total Revenues						
4.2 Expenses						
a. Personnel Costs						
b. Power						
c. Chemicals						
d. Management Fees						
d. Repairs and Maintenance						
e. Bulk Water Purchase						
f. Bad Debts						
g. Annual Water Charge						
h. Supervision and Regulation Fee						
i. Franchise Tax						
j. Other O & M Costs						
k. Depreciation						
l. Interest Expense						
Total Expenses						
4.3 Net Income (Loss) Before Income Tax						
<b>5. WATER PRODUCTION DATA</b>						
5.1 Volume Produced and Purchased (in cubic meters)						
a. Pumped Water						
b. Gravity Fed						
c. Bulk Water Purchased						
Total						
5.2 Volume of Billed Water (in cu. meter)						
a. Metered						
b. Un-metered						
Total Volume Billed						
5.3 Water Use Assessment						
a. Average Monthly Consumption /Connection (in cu. m.)						
1. Residential						
2. Commercial/Industrial						
3. Public Tap						
b. Average Consumption per Capita/day (in liters) (residential customers only)						
c. % of Non-revenue water (%NRW)						
5.4 Other Water Production Data						
a. Capacity of reservoirs (cu. m.)						
b. Number of operating pumps						
Pump Details - YTD		TOTAL	Pump 1	Pump 2	Pump 3	Pump 4
Ave. operating hours						
Ave. production (in GPM)						
Ave. kilowatt hours consumed						
Total kilowatt hours consumed						
<b>6. WATER PRESSURE</b>			Month of December	Year-to-Date (YTD)		
6.1 Range of Water Pressure, in psi						
6.2 Water Pressure for 80% of Service Area, in psi						

### AUDIT CERTIFICATE

I/We have audited the accompanying balance sheets of \_\_\_\_\_ and the related statement of income and supporting schedules, as set forth in this Annual Report to be filed with the National Water Resources Board pursuant to Section 17 (h) of Commonwealth Act No. 146, as amended.

I/We conducted my/our audits in accordance with auditing standards generally accepted in the Philippines. Those standards require that we plan and perform the audit to obtain reasonable assurance whether the financial statements are free of material misstatement. I/We believe that my/our audits provide a reasonable basis for my/our opinion.

In my/our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of \_\_\_\_\_ as of December 31, 20\_\_\_\_, and the results of its operations for the year then ended in conformity with accounting principles generally accepted in the Philippines.

\_\_\_\_\_  
*Certified Public Accountant*

PTR Number: \_\_\_\_\_

Date Issued: \_\_\_\_\_

Place Issued: \_\_\_\_\_

Date: \_\_\_\_\_

**AFFIDAVIT**

I, \_\_\_\_\_  
(Name of Affiant)

of \_\_\_\_\_  
(Residence Address)

after having been duly sworn to in accordance with law, hereby depose and state;

1. That I am the \_\_\_\_\_  
(Position)

of \_\_\_\_\_;  
(Name of Water Utility)

2. That I have personally and carefully examined the foregoing annual report of \_\_\_\_\_;

(Name of Water Utility)

3. That I attest the truthfulness and accuracy of all statement of facts contained in the said report;

4. That this report is a complete and faithful statement of the business affairs of the above-named water utility during the period from \_\_\_\_\_ to \_\_\_\_\_, 20\_\_\_\_.

IN WITNESS WHEREOF, I have hereto affixed my signature this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ at \_\_\_\_\_

\_\_\_\_\_  
(Signature of Affiant)

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,  
Affiant exhibited to me his Community Tax Certificate No. \_\_\_\_\_  
issued at \_\_\_\_\_ on \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Notary Public)

Doc. No: \_\_\_\_\_

Page No: \_\_\_\_\_

Book No: \_\_\_\_\_

Series of: \_\_\_\_\_