RESOLUTION OF THE BOARD OF REGULATORS
ENERGY REGULATORY AUTHORITY OF MONGOLIA

September 12, 2001 Register # 5 Ulaanbaatar

About approving the Interim Methodology for determining prices and tariffs

Following shall be stated based on the provision 9.1.4, Article 9 of the Law on Energy, Mongolia:

1. To approve the attached Interim Methodology for determining prices and tariffs of Licensees.

2. To oblige the directors of the License holding companies to estimate prices and tariffs in accordance with this Methodology and develop proposals for the consideration of the Energy Regulatory Authority and oblige the Tariff Department (Mr. Battushig) to review the tariff estimations and proposals submitted by Licensees.

CHAIRMAN /signature/ R. GANJUUR

REGULATOR /signature/ G. DAMDINSUREN

REGULATOR /signature/ B. MUNKHUU

Sealed with the Stamp

Appendix to the Resolution # 5
ERA Board of Regulators' 2001

Interim Methodology for determining prices and tariffs of Licensees

One. General provisions

1.1. The purpose of this Interim Methodology lies in establishing tariff level to be followed by Licensees at the first stage of transition to commercialization of the energy sector.

1.2. Tariffs shall be established for each of the operation including energy production, transmission, distribution, supply and dispatch regulation.

1.3. The Licensee shall propose tariffs for the Licensed activity in accordance with this Interim Methodology based on the current market prices.

1.4. The Licensee shall determine prices and tariffs for the Licensed activity in accordance with this Methodology, based on the actual operating costs for the last 3 years and submit their proposal to the ERA.

1.5. Technical and financial indices, energy balance and justifications for unplanned expenses shall be attached to the price and tariff estimations with related explanations and estimations.

Two. Glossary

The words and phrases appearing hereto in this Interim Methodology shall have the following meanings:

2.1. **Total operational costs (TOC)** shall mean total operating costs excluding loan interests.
2.2. **Short- term payables (STP)** shall mean payables to be paid within one year.
2.3. **Cross-Subsidy (CS)** shall mean amount of financial loss from heat production, which shall be included in the electricity tariff.
2.4. **Subsidy (S)** shall mean approved compensation from a Government body.
2.5. **Loan Interest (LI)** shall mean short-term loan interests which shall be paid within the reporting period.
2.6. **Total costs (TC)** shall mean the sum of total operational costs related to the Licensed activity and Loan Interests.
2.7. **Net fixed assets (NFA)** shall mean net plant investment for Licensed activity resulting from subtraction of accumulated depreciation from fixed assets.
2.8. **Rate base (RB)** shall mean the sum of Net Fixed assets and working capital.
2.9. **Required revenue (RR)** shall mean sales revenue reflecting total operating costs and return on investment.
2.10. **Tariff (T) –** price set for the output of production, dispatch, transmission, distribution and supply services, and any import price.
2.11. **Long term payables (LTP)** shall mean payables to be paid within more than one year.
2.12. **Total Production (TP)—**quantity of electricity and heat to be produced, transmitted, dispatched, distributed and supplied.
2.13. **Fixed Assets (FA)** shall mean assets to be used in the Licensed activity for a long term.
2.14. **Return on investment (RI)** shall mean the amount of compensation as a result of investment that reflects the long term loan interest expenses.
2.15. **Rate of return (RoR)** shall mean the weighed sum of short and long-term loan interest expenses and return on equity in percentage.
2.16. **Current assets (CA)** shall mean spare parts, fuel, supply and raw materials, cash, receivables etc., to be used in the Licensed activities for a particular year.
2.17. **Depreciation (D)** shall mean expenses annually accumulated as a result of utilization of fixed assets.

Three. Principles for determining energy prices and tariffs

3.1. Should be based on actual operating costs

3.2. Should ensure sufficient income of the Licensee to provide normal financial viability

3.3. Should implement the least cost principle in energy production, transmission, distribution and dispatch regulation in correspondence with the technical and technological requirements.

3.4. The costs should be based on the actual costs of the last few years, and the cost structure shall not include depreciation of future investment and reform expenses.

3.5. Once the funding source is approved by authorized Governmental body, subsidy should be included in tariff estimations.

3.6. Production and service costs should not include all types of reward, allowances and other types of donations, gifts, receptions not related to the Licensed activities, subsidiary entities, sanatoriums, canteens and other non-production service costs.

Four. Tariff estimations of the energy production, transmission, distribution and supply Licensee

4.1. Tariff structure

Tariff structure shall consist of per unit of product or service, return on investment and operating costs.

4.2. Tariff estimations

4.2.1. Tariff

Tariffs (T) shall be calculated in the following way: amount of subsidy guaranteed by an authorized governmental body (S) shall be deducted from the required revenue (RR) and divided to the amount of total production (TP).

$$T = \frac{RR-S}{TP}$$

Tariff shall be calculated to two decimal places or in tugrugs and mungus.
The Licensees shall estimate the prices and tariffs in accordance with the Table #1.
Electricity Transmission Licensees shall estimate the prices and tariffs in accordance with the Table # 2.

4.2.2. Required Revenue

Required revenue need to be defined in order to calculate prices and tariffs. Required revenue (RR) shall be equal to the sum of total costs (TC) and return on investment (RI).

$$RR = TC + RI$$

4.2.3. Total costs

Total costs (TC) shall consist of total operational costs(TOC), Loan Interest (LI) and Cross Subsidy (CS).
Cross Subsidy shall be referred to CHP License holders only.

TC= TOC + LI + CS

4.2.4. Total operational costs

Total operational costs (TOC) for the Licensed activity shall be determined for each category of the License in accordance with Table # 3.
Total operational costs for Transmission Licensee shall be estimated in accordance with the Table # 4.

4.2.5. Return on Investment

Return on Investment (RI) shall be determined in the following way: rate base (RB) multiplied by the rate of return on investment (RoR).

RI = RoR • RB

4.2.6. Rate of Return

Rate of return (RoR) shall be determined as the weighed average of returns on investment sources. Investment sources shall consist of long-term loans and equity.
Abstract example of determining the rate of return:

	Source (mln.tug)	Interest	Percentage in total	Weighed cost (%)
1. Long term loans	15000	1 %	10.71	0.11
2. Equity	125000	3%	89.29	2.68
Total	140000		100	2.79

Note: Interest rates shall be defined for the reporting period.

4.2.7. Rate Base

Rate base shall be equal to the sum of net fixed assets (NFA) and net working capital (WC).

RB = NFA + WC

4.2.8. Net Fixed Assets

Net fixed assets (NFA) are determined by deducting accumulated depreciation (AD) from the initial cost of fixed assets devoted to Licensed activities.

NFA = FA-AD

4.2.9. Amount of net working capital

Net working capital (WC) shall be estimated by deducting short-term payables (STP) from current assets (CA) related to the Licensed activity.

WC = CA – STP

4.3. Other

4.3.1. The fuel cost allocation into electricity and heat for CHP plants shall be made in accordance with spending percentage of total equivalent fuel.

4.3.2. The fixed costs of CHP plants shall be distributed to heat and electricity by 30 and 70 % respectively.

4.3.3. Financial losses relating to heat generation of CHP plants shall be determined in accordance with the Table # 5 and reflected in the price of electricity.

4.3.4. Return on investment for the CHP plants shall be considered only for estimating the electricity tariffs.

4.3.5. The Licensees shall attach the following documents necessary for reviewing the tariff estimations. They include:

a) Report on technical and financial indices of the Production Licensees
b) Energy balance and report on technical and financial indices prepared by Transmission Licensees and NDC
c) Estimations of operational costs of the Licensed activities in accordance with Table # 6
d) Economic indices prepared by Distribution and Supply Licensees in accordance with the Tables # 7 and 8.
e) List of prices and tariffs of fuel, raw materials, spare parts and services used in tariff estimations
f) Decision of the authorized Government body to issue Cross subsidy included in the tariff estimations, and documents related to short and long-term loans