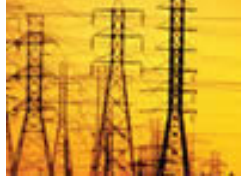


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Draft: Bangladesh Energy Regulatory Commission Gas Transmission Tariff Regulations, 2008

Bangladesh Energy Regulatory Commission (BERC)

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The Bangladesh Energy Regulatory Commission in exercise of the power conferred by the Bangladesh Energy Regulatory Commission Act, 2003 (Act No 13 of 2003) as amended, hereby adopts the following regulation.

1. SHORT TITLE AND COMMENCEMENT:

a. This regulation shall be called Bangladesh Energy Regulatory Commission Gas Transmission Tariff Regulation, 2008.

b. This regulation shall come into force upon publication in the official Gazette.

2. SCOPE AND APPLICATION:

a. This regulation shall define: (1) the process of submitting application by a Licensee for a tariff containing the rate, terms, and conditions of service, or a change thereof; (2) the methodology to be used by the Commission in reviewing the application; (3) and the procedures for the issuance of an approved tariff of the applicant licensee; or an approved

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change thereof.

b. This Regulation shall apply to licensed applicants supplying natural gas transmission services. Transmission of natural gas condensate will be addressed under a separate regulation.

c. In developing this regulation, the Commission has taken into consideration applicable acts, orders, etc.

3. DEFINITIONS:

a. Words, terms and phrases that are defined in the Bangladesh Energy Regulatory Commission Act, 2003 (Act No 13 of 2003), including subsequent amendments to the Act, and Commission's Regulations, shall have the same meaning for the purposes of this Natural Gas Transmission Tariff Regulation, 2008.

b. Words, terms and phrases that are not defined in this Regulation or in the Bangladesh Energy Regulatory Commission Act, 2003 (Act No 13 of 2003), including subsequent amendments to the Act and Commission's Regulations, shall have the meaning assigned to them in or other applicable legislation. Words, terms and phrases that are not defined in either the Bangladesh Energy Regulatory Commission Act, 2003 (Act No 13 of 2003), including subsequent amendments to the Act, and the Regulations, shall be defined by the Commission as needed.

c. Unless the context requires otherwise, the words, terms and phrases in the Natural Gas Transmission Tariff Regulation and any attachments hereto shall have the following meanings:

(1) "Acceptance Date" means the date on which a tariff application has been received with required data by the Commission, and the process for hearing commences.

(2) "Accounts" means the accounts prescribed in the uniform system of accounts.

(3) "Act" means the Bangladesh Energy Regulatory Commission Act, 2003 (Act No 13 of 2003) including any subsequent amendments.

(4) "Affiliate" means an entity in the same corporate family of a transmission provider that buys, sells, trades or administers energy in Bangladesh, including entities engaged in financial energy transactions relating thereto.

(5) "Amortize" means to spread a nonrecurring expenditure over a period of years to avoid distortion or unfair impact in rate design.

(6) "Applicant" means a licensed entity who applied to the Commission in accordance with this Regulation to establish tariffs for operations by the licensee.

(7) "Beta" means a measure of market risk used with the capital asset pricing model to capture the extent a stock's return moves with the general stock market return, or the best estimate of measure.

(8) "Block Rate" means a rate schedule which provides different unit charges for successive blocks or amounts of units consumed.

(9) "Calorimeter" means equipment used to test the heating value of natural gas.

(10) "Capacity" means the load for which the system is rated.

(11) "Capacity Factor" means the degree to which the facilities and invested capital are being used.

(12) "Capital Asset Pricing Model" means a method of measuring the cost of capital which assumes the expected return on equity is equivalent to that on a riskless interest rate plus a risk premium.

(13) "City Gas" a location at which gas control passes from a natural gas pipeline to a local distribution licensee.

(14) "Common Carrier" means a transporter obligated to provide transportation service to an interested party without taking title to the commodity.

(15) "Commission" means the Bangladesh Energy Regulatory Commission.

(16) "Comparable Earnings" means a measurement of the rate of return by comparing one company's earnings with others.

(17) "Compressor Station" means an facilities which supply the energy to move natural gas at increased pressure from fields, through transmission systems, through distribution systems, or into storage systems.

(18) "Condensate (lease condensate): A natural gas liquid recovered from associated and non-associated gas wells from lease separators or field facilities. In Bangladesh this is primarily composed of High Speed diesel (HSD), Light Diesel Oil (LDO), and Motor Spirit (MS).

(19) "Construction (Capital) Work in Progress (CWIP)" means plant not yet operational which may or may not be included in a licensee's rate or asset base.

(20) "Distribution Companies" means regulated licensees which directly market natural gas to consumers on a retail basis.

(21) "Effective Date" means the date on which a proposed tariff schedule with rates is permitted by the Commission to become effective.

(22) "Force Majeure" means any acts of God, wars or insurrections, civil disturbances, breakage of machinery or pipes, necessity for repair, insufficiency of natural gas supply, order of any government authority, or any other cause not within the control of the transmission utility.

(23) "Gas Main" means a distribution line that serves as a common source of supply for gas service lines.

(24) "Gathering Systems" means pipelines owned and operated by natural gas producers that are considered an integral part of production rather than transmission.

(25) "Initial Rate" means a filed rate or rates applicable to the transmission of natural gas other than that which proposes to supersede, supplement, cancel or otherwise change the provisions of a tariff rate schedule currently on file with this Commission.

(26) "Interruptible Rates" means rates offered to large industrial and commercial customers to have their service interrupted, based upon the transmission or distribution utility's request.

(27) "Liquefied Natural Gas (LNG)" means natural gas that has been cooled for storage or shipment as a liquid.

(28) "Load Factor" means the degree to which a natural gas pipeline is being used – the ratio of average transmission to peak transmission.

(29) "Net Utility Plant" means the investment in utility plant less accumulated depreciation.

(30) "Person(s)" means an individual or entity.

(31) "Rate" means the authorized charges, per transported unit for a specified time period for any of the classes of transmission licensee services provided to a customer.

(32) "Rate of Return" means the return earned or allowed to be earned by a licensee calculated as a percentage of its rate base.

(33) "Regulations" means any regulations developed and promulgated by the Commission according to the Bangladesh Energy Regulatory Commission Act, 2003 (Act No 13 of 2003), including subsequent amendments to the Act.

(34) "Salvage Value" means the amount received for property retired, less any expenses incurred in connection with the sale or in preparing the property for sale; or, if retained, the amount at which the material recoverable is chargeable to materials and supplies or other appropriate account.

(35) "Schedule" means a statement of the pricing format of natural gas transmission or transportation, and the terms and conditions governing its applications.

(36) "Service Obligation" means the obligations which are among the duties a licensee must perform, for example, to serve all customers; to provide adequate service; and to render safe, efficient, and nondiscriminatory service.

(37) "Staff" means officers and employees employed at the Commission to assist the Commission in carrying out its functions.

(38) "Tariff" means a document, approved by the Commission, listing the terms and conditions of service and a schedule of rates, under which licensee services will be provided.

(39) "Terms and Conditions of Service" means a published document included as part of a licensee's tariff that establishes the licensee's terms and conditions for providing service to a customer, discussing such issues as the conditions under which connection will be provided to a customer, metering,

payment instructions, etc.

(40) "Transmission" means an interconnected pipes and associated equipment for the transportation of natural gas from the production gathering system of individual fields to town border stations, city gates, or large volume off-take meters and valves for delivery to customers, or is delivered to other electric systems.

(41) "Transmission Provider" means any Licensee that owns, operates or controls assets used to transport bulk natural gas.

(42) "Transportation" see Transmission.

(43) "Unaccounted Gas" means the quantity difference between the receipts of gas to the transmission or distribution system; and the total gas booked as sales, net interchange, and licensee use.

(44) "Uniform System of Accounts" means a system of financial accounts prescribed by the BERC for use by the licensees under its jurisdiction.

(45) "Working Capital" means the amount of cash required to operate a licensee during the average interim period between the rendition of the service and the receipt of payment for the service.

4. APPLICATION FORM AND FEES:

a. An application for the filing of initial, or the changing of current effective transmission tariff, shall be filed with the Bangladesh Energy Regulatory Commission in accordance with this regulation.

b. An application shall be made upon payment of an application fee, which will be fixed by the Commission from time to time. The application fee shall be paid by means of demand draft/pay order from a schedule bank in Bangladesh , in the name of the Bangladesh Energy Regulatory Commission.

5. DOCUMENTS TO ACCOMPANY A TARIFF APPLICATION:

a. The filing of an application for a tariff with rates, and terms and conditions of service shall include the following:

- (1) A list of documents submitted with the filing;
- (2) The date on which service under the proposed schedule is expected to commence;
- (3) The names and addresses of those whom the tariff schedule will be mailed;
- (4) A copy of the draft notice announcing the rate;
- (5) A brief description of the kinds of services to be furnished and the rates specified therein for each service;
- (6) A summary of the circumstances which show that all requisite agreement to the tariff schedule or to the filing thereof, including any contract embedded therein, has in fact, been obtained;

(7) Estimates of the transactions and revenues under a tariff schedule;

(i) This shall include estimates by months and for the year, of the quantities of services to be rendered and of the revenues to be derived during the twelve months immediately following the month in which those services will commence.

(ii) Such estimates should be divided by class of customer, and delivery points and shall show all billing determinants..

(8) The basis of the rate proposed in a tariff schedule and an explanation of how the proposed rate was derived;

(9) A summary statement of all costs (whether fully distributed, incremental or other) computations involved in arriving at the derivation of the level of the rate in sufficient detail to justify the rate, shall be submitted with the filing;

(10) A comparison of the proposed rate with other rates of the filing utility or regulated entity for similar transmission service, interconnection, and ancillary services.

(11) A copy of relevant transmission, ancillary service and interconnection agreements, including detailed terms of service.

b. The required documentation, in support of a change to an existing tariff schedule, is as follows:

(1) Summary of tariff proposal with historical trend of the rate;

(2) Justification of tariff changes proposal;

- (3) Detailed methodology of arriving at the proposed tariff rate;
- (4) List of person(s) likely to be affected by the changes in the tariff;
 - (i) The current relationship with the person(s);
 - (ii) The relationship that will emerge after the proposed change.
- (5) A copy of the draft notice announcing the change in the tariff.
- (6) Audited annual accounts for the last consecutive three years;
- (7) Provisional accounts for the current year at the time of submission;
- (8) Comparative statement of present and future financial position resulting from changes in tariff;
- (9) Details of financial impact if the proposal is not approved;
- (10) Financial forecast for the next year at the time of filing of the tariff proposal;

(11) A three year historical loss report;

(12) Any other information which the applicant considers could be useful for evaluating the proposal, including detailed terms of service.

c. All accounting codes utilized in the application for an initial rate or change in existing tariff rate schedule shall be consistent with the Commission's uniform system of accounts, as and when published.

d. All application filings should provide five copies in printed form and a copy of the filing in an electronic format, preferably Microsoft Word, Excel, and Access.

e. Commission may seek clarification or new information relevant to the proposal after submission of the proposal.

6. ACCEPTANCE AND PROCESSING OF APPLICATION:

a. Acceptance of Application.

(1) The Staff of the Commission has thirty days from the receipt of the application by the Commission Secretary to review and identify any flaws in the application, and any additional information that the Commission may require, in evaluating the application.

(2) The Staff shall establish a data request deadline, not to exceed two weeks, within which the applicant will provide the supplemental information.

(3) Upon receipt of the required information, the Staff will prepare an entry for acceptance by the Commission, at a regularly scheduled Commission administrative meeting,

accepting the application for consideration. That acceptance date becomes the official receipt date for the application.

(4) The fact that the Commission accepts a tariff schedule or any part for filing shall not constitute approval by the Commission of such tariff schedule or part thereof.

(5) The Commission shall not be required to entertain or accept any application until such supporting supplemental data is furnished.

(6) The Commission shall not pass an order rejecting the application without giving the applicant an opportunity of being heard or making a written representation.

(7) If the Commission accepts the application, it may give such orders and directions for the service of notices as it deems appropriate to --

(a) all persons affected by, or interested in, the application who in the opinion of the Commission are likely to be affected or interested; and

(b) persons, who, by reason of their calling or expertise, may be of assistance to the Commission in arriving at a just and informed determination on the application.

b. Publication and Service of Notice.

(1) A notice issued on the directions of the Commission may be served on the party concerned, as the Commission may direct, and the Commission may direct the service to be effected through any one or more of the following modes of service, namely:

-

(i) by hand delivery through a messenger;

(ii) by registered post with an acknowledgment due; or

(iii) by publication in one English language and one Bangla language national daily newspaper, and by advertisement in the electronic media in cases where the Commission is satisfied that it is not reasonably practicable to serve notices in any other manner.

(2) Every notice or process required to be served on, or delivered to, any person may be sent to the person at the address furnished by him for service, or at the place where the person or his agent ordinarily resides or conducts business or personally works for gain. When a person is to be served during the course of the proceedings and such person has authorized in writing an agent or representative to represent him in the proceedings, such agent or representative shall be considered duly authorized to accept service of a notice and process on behalf of the person concerned.

(3) The Commission will issue notice of filing to the public by publication in one English language and one Bangla language national daily newspaper or on the Commission's website.

c. Processing of Application:

(1) The processing of a tariff application shall begin when the application is officially accepted by the Commission and registered with the Secretary of the Commission. A date stamp shall be put on first page of the Application. An appropriate receipt for the application fee shall be prepared and provided to the Applicant.

(2) All paperwork pertaining to a tariff application shall be maintained by the Commission in a separate case file for each applicant. The Commission shall maintain a registration log of all orders issued and this information, including Commission's resolutions, shall be available to the public for review by any interested parties, with exception of the information defined as

confidential according to Commission Regulations or written order. Copies of the application, Commission order, and all written testimony and transcripts of oral testimony given in a hearing shall also be filed in this case.

7. EVALUATION OF THE APPLICATION:

a. The Commission shall evaluate the respective application once it has been accepted. The application shall be evaluated in accordance with published Commission tariff methodology.

b. The Commission may perform investigations to collect necessary information, and generally take any measure or action it considers necessary to decide whether or not to approve such an application.

8. REJECTION OF APPLICATION:

a. The Commission may reject an application for any reasons that include, but are not limited to, the following:

(1) The enclosed documents to the application do not comply with the requirements of this tariff regulation and/or the applicant has not filed supplemental information pursuant to a request for data from Commission Staff within the required filing deadline, or the application violates other applicable laws of Bangladesh;

(2) The submitted documents contain materially incorrect information;

(3) The applicant does not have a right to request the tariff change under the Act, this Tariff Regulation and any other Regulations issued by the Commission.

b. The reason for an application rejection by the Commission shall be recorded in writing and provided to the applicant Within 30 days of the Commission's determination.

9. INTERVENTION, OBJECTION AND HEARING:

a. The Commission shall, within 60 days of official acceptance of the application, schedule a public hearing at which all parties to the case may present testimony and be cross examined concerning the proposed tariff application. The public hearing shall be in accordance with the Commission's Public Hearing Regulation.

b. The Staff of the Commission will be required to provide written testimony, and be available for cross examination at the public hearing explaining its analysis of the application and its recommendations for Commission action. Copies of the written testimony will be made available to registered parties to the case, at least one week before the date of the hearing. Similarly, all other parties in addition to the Staff shall provide copies, to all other registered parties and to the Staff, of any written testimony that they wish to file in the case, at least one week before the hearing.

c. Any person seeking to intervene in a rate proceeding or objecting to the tariff application may present his/her motion to intervene and objection by sending a signed original and four (4) copies to the Secretary of the Commission within fifteen (15) days of publication of notice of acceptance of a tariff application. The motion to intervene and objection must clearly state the name and address of the person seeking intervention and objecting to the application, and the factual grounds for intervention and objection. The objection shall be deemed filed only when it is actually received by the Commission and is accompanied by the required filing fee, which will be fixed by the Commission from time to time. Filing an objection in and of itself does not make a person a party to the proceeding. In order to become a party to a tariff proceeding, a person must file a motion to intervene.

d. The Commission, after review of the motion to intervene, may accept persons as a party to the case. The intervening party's participation in the proceeding will be in accordance

with the terms and provisions of the Commission's Hearing Regulation.

e. In the event of the Commission's denial of a motion to intervene, the moving person shall have the right to a motion's hearing, to provide additional bases in support of his motion to intervene in the proceeding. The motion hearing shall be conducted in accordance with the terms and provisions of the Commission's Hearing Regulation.

10. CONTACTS WITH APPLICANT:

Consistent with the Commission's Public Hearing Regulation, from the time the application for consideration of an initial tariff or a change to an existing tariff is officially accepted by the Commission, until the Commission has made a decision in writing and sent it to the Applicant, all contacts with the Applicant shall be in writing through the Secretary of the Commission, or his designated representative. All contact with the Applicant shall relate only to matters of clarification and additional information, to be provided in writing by the Applicant to the Commission. Any other communications will be considered prohibited and grounds for dismissal of the proceeding or rejection of the application.

11. DECISION OF THE COMMISSION:

a. The Commission shall decide an application normally within 90 working days after its official acceptance and issue a written determination or order, signed or initialed by each Member.

b. All Commission determinations and orders are final.

c. Notwithstanding a Commission's final order, a party, within thirty (30) days of the final determination, may submit a petition to the Commission for reconsideration. Such petition and the Commission's actions associated therewith are subject to the provisions of the Commission's Hearing Regulation.

d. Copies of all orders, determinations and decisions made or issued by the Commission, shall be certified under the signature of the Secretary and the seal of the Commission, and shall be made available to any person on payment of such fees as the Commission may, from time to time, determine. Copies of all such orders, determinations and decisions shall be available on the Commission's website or at the principal office at Dhaka for public inspection free of cost.

12. TERM OF TARIFF:

a. The tariff shall become effective pursuant to the date specified in the order issued by the Commission.

b. The tariff with rates determined by the Commission shall remain in effect until such time as the Licensee shall file for a revision of the tariff, a materially affected party files or the Commission itself initiates a case, suo moto, for revision of the tariff. In the latter case the burden of proof lies with the affected party to show that the current tariff is improper.

c. In no case shall consideration of a new tariff application from the same company be considered within twelve (12) months of the effective date of that initial tariff or rate. The exception would be if an applicant can materially demonstrate that he will endure extreme and undue hardship in the absence of revision. The burden of proof of extreme and undue hardship lies with the applicant, and the Commission will not normally consider such a requirement in variance with the Act.

13. NOTIFICATION TO CUSTOMERS OF INITIAL TARIFF OR CHANGE IN TARIFF:

a. The applicant shall send a BERC approved notice, to each of its customers; indicating either the Commission determined initial tariff; or the Commission approved revised tariff as evidenced by a copy of the original tariff, and the subsequent revised tariff. The notification shall be sent not later than two

weeks after the Commission's decision, and not less than seven days prior to the effective date.

b. The applicant shall publish a BERC approved notice in at least two widely circulated national daily newspapers, one in English and one in Bangla, showing therein the original tariff, and the respective changes. This notification shall be published not later than seven days prior to the effective date of the revised tariff.

By the order of the Commission

Ghulam Rahman

Chairman

Bangladesh Energy Regulatory Commission (BERC)

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NATURAL GAS TRANSMISSION

TARIFF METHODOLOGY

1. INTRODUCTION

1.1. The purpose of this natural gas transmission tariff methodology is to establish a standard which will be utilized by a licensee in calculating rates as part of a transmission tariff. By having a regular methodology, a licensee can predetermine the likely outcome of an application for a change in tariffs. Similarly, customers and other interested parties will have confidence in the Commission's examination of the tariffs, that the systems are standardized in a professional manner. Such standardization provides the Commission staff with a reliable basis for examining a tariff application. Natural gas condensate transportation will be the subject of a separate tariff

methodology.

1.2. Service options such as interruptible and firm transportation service, storage services, aggregation services, balancing services, LNG services, etc. will be addressed on a case-by-case basis, if and when the transmission licensee(s) develop a requirement for such services.

1.3. Each transmission licensee shall have published tariff instructions, available to all parties, listing the rates for service, any fixed charges, and appropriate terms and conditions for providing service, termination of service, late payment charges, dispute resolution processes, etc.

1.4. A natural gas transmission licensee shall have signed transmission agreements between and among all parties transporting natural gas. The contracts shall specify the amount of gas to be delivered minus technical losses. The BEREC shall approve the amount of technical loss it deems appropriate.

1.5. Every customer of a transmission licensee shall receive a detailed bill each month.

2. NATURAL GAS TRANSMISSION SERVICE RATE

2.1. Summary

2.1.1. The rate determined by this procedure should provide the least cost to consumers, and provide the opportunity for the licensee to earn sufficient revenues to cover all of its operating expenses, provide for continuing improvement of its operating system, and attract capital for investment. This is computed through a process termed the cost of service. Essentially a revenue requirement is computed for the transmission company and compared to current revenues. An increase is determined which is adjusted to reflect tax effects. The increase is summed with the current revenues and divided

by the test year throughput to determine a transmission rate. This rate design approach produces a uniform rate for all transmission or transportation.

2.2. Test Year

2.2.1. This is a standardized period, which provides a uniform data base for the calculation of rates. The applicant compiles the company data on the basis of this period. The Commission's

analysis and decision is based upon the foundation of data produced from the foundation of data produced for the test year.

2.2.2. The test year is a twelve month period for which complete data is available. Using this twelve month compilation of data, the Commission staff will review the economic analysis that supports the rate and tariff application to see if it is reasonable. The Commission hereby defines the test year, for the transmission tariff rate applications placed before it, as the most recent fiscal year ending on 30 June. In the case of a transmission applicant with no operating history, then the best estimate for a fiscal year will be considered by the Commission.

2.3. Revenue Requirement

2.3.1. Summary

2.3.1. The revenue requirement is the amount of income that the transmission licensee should have the opportunity to earn in order to maintain operations and attract capital for investment, but still maintain the least cost for consumers.

2.3.2. The total annual revenue requirement is the sum of a return on rate base, plus the sum of the total annualized costs of operating the transmission utility.

Total Annual Revenue Requirement = Return on Rate Base + Total Costs

2.3.3.. The annual revenue requirement in a rate case is computed through a process termed the cost of service. The annual revenue requirement is determined on the basis of test year data. It is compared to the record of current revenues and an increase is computed. The revenue increase is the amount of additional revenue needed by the utility to achieve the revenue requirement. Since the revenue increase will also be taxed, to insure that the utility has the opportunity to receive the net income necessary to achieve the revenue requirement, the increase is augmented to recover the tax effect through a factor termed a "gross up" factor. Once the revenue increase is determined, it is summed with the amount of current revenues to achieve the test year total revenue requirement. This is divided by the transmission throughput of the test year to develop the transmission rate.

2.3.2. Rate Base or Qualifying Assets

2.3.2.1 . Summary

2.3.2.1.1. The rate base for a transmission licensee shall consist of the depreciated used and useful assets; plus the regulatory working capital.

Rate Base = Depreciated Used & Useful Assets + Regulatory Working Capital

2.3.2.2. Used and Useful Assets

2.3.2.2.1. The physical asset accounts considered for a transmission utility are broken into three categories –

intangible plant, transmission plant, and general plant.

Reference for appropriate plant account numbers, definitions, etc. should be made to the BERC uniform system of accounts, when it becomes available.

2.3.2.2.1.1. Intangible plant would consist of organization, franchises and consents, and miscellaneous intangible plant.

2.3.2.2.1.2. Natural gas transmission plant would include land and land rights, rights-of-way, structures and improvements, mains, compressor station equipment,

measuring and regulating station equipment, communication equipment, and other equipment.

2.3.2.2.1.3.. General plant would include land and land rights; structures and improvements; office furniture and equipment; transportation equipment; stores equipment; tools, shop and garage equipment; laboratory equipment; power operated equipment; communication equipment; miscellaneous equipment; and other tangible property.

2.3.2.2.2. New assets shall be included in the asset valuation for establishing rates, when they become used and useful, and the value shall be at the original cost.

2.3.2.2.3. Depreciation is a process which distributes the original cost of depreciable assets, adjusted for net salvage value, over the normal useful life of the property in a systematic and rational manner.

2.3.2.2.3.1. Additions and improvements are charged to the respective transmission plant accounts at original cost. Upon the normal retirement of a transmission plant asset, its original cost is charged against the accumulated depreciation reserve together with the cost of removal less salvage value. The cost of maintenance, repairs, and the replacement of

minor items is charged to operating expenses as incurred.

2.3.2.2.3.2. For purposes of public utility accounting for rate making purposes, the BERC requires that a straight-line depreciation method will be applied for all public utility assets. The useful or standard life of an asset shall be specified in accordance with the International Accounting Standards and such depreciation life schedules as established by the BERC. For purposes of this regulation, straight line depreciation rates are considered acceptable over the following life of equipment and plant:

<i>Depreciation Life</i>	
ITEM	USEFUL LIFE
Transmission Mains	30.0 Years
Transmission and Distribution Plant	20.0 Years
Land Development and Improvements, Compressors, and SCADA	20.0 Years
Furniture and Fixtures, Temporary Works, Tubewells, Water & Pipeline Tanks, Unclassified Assets	10.0 Years
Office Equipment	7.0 Years
Water Pumps and Light Vehicles	5.0 Years
Radiography and G&G Equipment, Loose Tools	4.0 years

2.3.2.2.3.3. The amount of the current depreciation will be added as an expense in total costs at the current book value of the assets, and is not subject to re-evaluation based upon any subsequent revision of the asset valuation.

2.3.2.2.3.4. In making application for a rate or tariff change, the natural gas transmission utility must file a schedule which shows the original acquisition cost of

the asset, the accumulated depreciation, the net asset value after reduction for depreciation, and the amount of depreciation to be included in the rate application for the test year.

2.3.2.3. Regulatory Working Capital

2.3.2.3.1. Summary

2.3.2.3.1.1. The last major element of rate base is regulatory working capital. In transmission licensee tariff rate design, “regulatory working capital” has a different meaning than the term “working capital” in normal accounting. Regulatory working capital is a measure of licensee funding of daily operating expenditures and a variety of non-plant investments that are necessary to sustain the ongoing operations of the licensee. Fundamentally, it is the normal operating funds of a licensee which carry it forward from month to month.

2.3.2.3.1.2. It is the sum of the cash working capital, materials and supplies inventory, and any prepayments made.

Transmission Regulatory Working Capital = Cash Working Capital + Materials and Supplies Inventory + Prepayments

2.3.2.3.2. Cash working capital

2.3.2.3.2.1. Cash working capital represents the licensee provided cash required for payment of operation expenses, to maintain compensating cash balances, and similar needs, between the time the expenditures are necessary to provide the services and the time collections are received for the services.

2.3.2.3.2.2. For a licensee, the formula calculates 1/6th (approximately 60 days) of operation and maintenance expenses for one year. For a well managed natural monopoly, this computation represents the average time and amount that the licensee must provide cash for operations before collections are received from the service.

Cash Working Capital = 1/6 x (Annual Operation & Maintenance Expenses)

2.3.2.3.3. Materials and supplies inventory

2.3.2.3.3.1. Materials and supplies are the licensee's inventory value for material and supplies necessary to meet daily requirements of providing service.

2.3.2.3.3.2. A 12-month average for the test year is used.

Materials and Supplies Inventory = (Total of 12 Months Value Materials and Supplies) / 12

2.3.2.3.4. Prepayments

2.3.2.3.4.1. Prepayments are made in advance of the period to which they apply and include items such as prepaid rents, insurance, and taxes. The amounts normally allowed are based on the same standards outlined above for M&S inventories.

2.3.2.3.4.2. The average monthly measurement period should encompass more than a single test year review, since certain pre-paid expenses (such as prepaid insurance) often are made for periods in excess of one year. Sum the prepaid balances over whatever the longest cycle of any individual component of the prepayment item, and then average it for the test year period. For example, if during the test year,

insurance was prepaid for three years, then divide the total by three, and for Tariff Rate purposes enter this amount for the annual prepayment amount. Divide this by twelve months to develop a monthly average value for prepayments to be included in working capital.

2.3.2.3.4.3. Advanced income tax is a prepayment included in regulatory working capital. Advanced Income Tax is charged at the rate of 2.5% of the invoice value of the imported item, and also paid each quarter to the Government on the basis of regularly adjusted quarterly estimates. For regulatory working capital purposes, the licensee can receive a return on a portion of the advance income tax paid. The licensee shall divide advance income tax paid during the test year by 12 months to develop an amount that is included in regulatory working capital.

2.3.3. Rate of Return on Assets

2.3.3.1. Summary

2.3.3.1.1. The transmission rate of return on qualifying assets shall be calculated as the weighted average cost of capital in accordance with the following formula:

Average Cost of Capital = [(Equity Capital x E%) + (Debt Capital x D%)]

[(Equity Capital + Debt Capital)]

where:

“E%” is a rate of return on the equity capital of the company, which is computed as described in the following section.

“D%” is a calculated weighted value of interest rate for debt capital, which is computed as described in the section following the discussion on return on equity.

2.3.3.2. Return on Equity

2.3.3.2.1. The rate of return on the equity capital shall be calculated as the weighted average of equity in accordance with the following formula:

$$E\% = \frac{[(\text{Common Stock Amount} \times \text{Dividend Rate}) + (\text{Remaining Equity Amount} \times \text{Non-Stock Rate})]}{[\text{Common Stock Amount} + \text{Remaining Equity Amount}]}$$

2.3.3.2.2. In the case of common stock, the amount of common stock outstanding during the test year is multiplied by the last dividend rate paid during the test year.

2.3.3.2.3. In terms of the remaining equity existing within the transmission licensee, if government owned, then the government's borrowing rate is utilized.

2.3.3.2.4. In the case of licensees, which are wholly or partially owned by the government, the cost of capital for remaining equity would equal the government's cost of capital. For purposes of rate development, the most recent treasury bill auction rate, pursuant to central bank auction, for the two-year Bangladesh treasury bills shall be utilized.

2.3.3.2.5. If the licensee is a privately held transmission company that falls under the regulation of the BERC, then the remaining equity rate can be computed on the basis of the following discussions.

2.3.3.2.6. The Commission's preference in determining the return on equity is a form of a capital asset pricing model (CAPM.). It assumes that the cost of equity is the sum of a risk-free rate of return, plus a return to compensate investors for market risk.

This is commonly termed a Beta. A Beta represents the extent with which a stock's return moves with overall market returns. A licensee stock's historical returns are compared to the returns of the market and a measure of risk determined.

2.3.3.2.7. It is the responsibility of the licensee applying for a tariff rate change to recommend a rate of return on equity, and provide adequate support to justify that equity rate. The Commission upon review will determine that equity rate pursuant to a Commission staff analysis and the review of all evidence in the public hearing.

2.3.3.2.8. Other methods for determining a return on equity are the discounted cash flow, risk premium approach, and comparable earnings approach.

2.3.3.2.8.1. The discounted cash flow assumes that the price of a stock is the present value of the income to be received from it in the future. The difficulty in utilizing this method is trying to assign a value to investor expectations. If the licensee stock is not publicly traded, or newly traded, it becomes a very subjective decision.

2.3.3.2.8.2. The risk premium method is also common. It assumes that equity has a required rate of return higher than debt. The cost of equity is the long-term cost of debt, plus a risk premium. The determination of the risk premium is again based upon historical stock records.

2.3.3.2.8.3. The comparable earnings approach takes a sample group of other licensees and develops a composite rate of equity return to be proposed for the licensee. Again records of similar equity rate proceedings and the results are required.

2.3.3.2.9. The Commission will consider tariff applications with all of these approaches, but prefers a method similar to the Capital Asset Pricing Model (CAPM), with a risk free rate of return plus an additional factor for market risk. The burden of proof with regard to establishing the rate of return remains with the licensee.

2.3.3.2 .10. It is the responsibility of the transmission licensee applying for a rate change to recommend a rate of return on

the non-stock equity, and provide adequate support to justify that rate. The Commission upon review will determine that rate pursuant to Commission staff analysis and the review of all evidence in the public hearing. Absent a qualified and approved recommendation by the transmission utility, for a partially government-owned licensee, the Commission will only accept the most recent treasury bill auction rate for two year notes that has occurred during the fiscal test year. If no auction has occurred during the test year, then the rate that existed at the last such auction prior to the test year will be utilized.

2.3.3.3. Return on Debt

2.3.3.3.1. The rate of return on the weighted value of interest rate for debt capital shall be calculated in accordance with the following formula:

$D\% = \frac{[(\text{Long Term Debt} \times \text{Debt Rate}) + (\text{Preferred Stock Amount} \times \text{Dividend Rate})]}{[(\text{Long Term Debt} + \text{Preferred Stock Amount})]}$

$[(\text{Long Term Debt} + \text{Preferred Stock Amount})]$

2.3.3.3.2. If there are multiple long term debt instruments at different interest rates, or multiple issuance of preferred stock at different dividend rates exist, then a similar weighted cost calculation would be performed for each category.

2.3.3.3.3. In terms of long term debt rate, the utilities that are wholly owned government entities shall use the loan rate applied by the government of Bangladesh, even if the loan funds derive from donor loans at a lower rate.

2.3.3.3. 4. The loan amounts used in this calculation should represent the outstanding balance (or unpaid balance) of the loan – not the original loan amount.

2.3.3.3. 5. The applicant utility must provide a long term debt summary, which indicate the original amount of the long term debt by source, amount, and date; the accumulated principal

reduction; the time period during the test year wherein the loan was applicable; the interest rate; the amount of interest paid during the test year; the amount of principal paid during the test year; and the amount of interest paid during the preceding fiscal year.

2.3.3.4 . Overall Rate of Return

2.3.3.4.1. The fundamental formula for computing the rate of return, as shown in the generic section of this regulation, would be applicable for an independently owned or a government owned transmission company:

$$\text{AC} = \frac{[(\text{Equity Capital} \times \text{E}\%) + (\text{Debt Capital} \times \text{D}\%)]}{[(\text{Equity Capital} + \text{Debt Capital})]}$$

2.3.3.4.2. This rate of return should provide the transmission utility with the opportunity to earn a return on the investment in the company which is reasonable based upon its obligations for long term debts and its ability to raise capital.

2.3.4. Total Costs

2.3.4.1. General Discussion

2.3.4.1.1. Total Costs are the sum of costs associated with the operation and maintenance (O&M) of the licensee's system, the straight-line depreciation costs of used and useful assets used for distribution for the Tariff Rate year, taxes, and any other necessary costs related to the operation of the licensee's system.

$$\text{Total Costs} = \text{O\&M Costs} + \text{Depreciation} + \text{Income \& Other Taxes}$$

2.3.4.1.2. Costs should be formulated in accordance with Bangladesh Accounting Standard and the Uniform System of Accounts, when published by the Commission.

2.3.4.1.3. Calculations of costs for each tariff application shall be based on the analysis of twelve months of actual data.

2.3.4.1.4. For the purpose of tariff calculation, all costs shall be detailed as much as possible in order to allow proper controls by the Commission.

2.3.4.1.5. O & M costs are the expenses incurred in a business arising from or directly related to producing the service as well as the costs of maintaining the system in service.

2.3.4.1.6. The amount of the current depreciation will be added as an expense in total costs at the current book value of the assets, and is not subject to re-evaluation based upon any subsequent revision of the asset valuation.

2.3.4.1.7. The taxes included as part of the cost of service include all applicable taxes. They are added as an expense.

2.3.4.2. Operation and Maintenance Expenses

2.3.4.2.1. Operation and Maintenance (O & M) costs are the expenses incurred in a business arising from or directly related to producing the service as well as the costs of maintaining the system in service.

2.3.4.2.2. O&M expenses for transmission utilities are broken into the major categories of transmission, customer accounts, sales, and administrative and general expense. Customer accounts and sales expenses play a minor role in the cost

factors of a natural gas transmission company.

2.3.4.2.2.1. Transmission Expenses

Transmission expenses are broken into two major categories – operations and maintenance. In terms of operations expenses costs are broken into: operation supervision and engineering; system control and load dispatching; communication system expenses; compressor station labor and expenses; gas for compressor station fuel; other fuel and power for compressor stations; mains expenses; measuring and regulating station expenses; transmission and compression of gas by others; other expenses; and rents. Maintenance expenses include: maintenance supervision and engineering; maintenance of structures and improvements; maintenance of mains; maintenance of compressor station equipment; maintenance of measuring and regulating station equipment; maintenance of communication equipment; maintenance of other equipment; operation supervision and engineering.

2.3.4.2.2.2. Customer Accounts Expenses

Customer Accounts Expenses are considered operations expenses only. They include supervision, meter reading, customer records and collection; uncollectible accounts; and miscellaneous customer accounts expenses.

2.3.4.2.2.3. Sales Expenses

Sales Expenses are considered operations expenses only. They include supervision, selling, advertising, and miscellaneous sales expenses.

2.3.4.2.2.4. Administrative and General Expenses

Administrative and General Expenses are broken into operation and maintenance expenses, with the bulk of the expenses being operation based. Operation expenses include administrative and general salaries; office supplies and expenses; administrative expenses transferred; outside services; property insurance; injuries and damages; employee pensions and benefits; franchise requirements; regulatory commission license fees; duplicate charges; miscellaneous general expenses; and rents. Maintenance expenses include only maintenance of general plant.

2.3.4.2.2.5. Foreign Currency Exchange Fluctuation

2.3.4.2.2.5.1. Given that Bangladesh utilities have dollar denominated, or other international currency denominated, loans from international banking institutions such as the Asian Development Bank, a utility incurs revenue loss as a result of the devaluation of the Taka in comparison to the U.S. dollar or

another international denominated currency, to the extent that revenues used to repay the loans are obtained from the local economy. Although debt related, this amount should be treated as an expense, which should be computed based upon the current exchange rate at the end of the fiscal year minus the exchange rate at the beginning of the fiscal year multiplied times the dollar amount, or other international currency, of loan repaid during the fiscal year. This will be included as an administrative and general expense.

2.3.4.2.2.5.2. The exchange rate difference of materials and equipment which has already entered the transmission company's possession cannot be reassessed and an exchange rate fluctuation calculated for that material or equipment already in the transmission company's possession can not be considered for rate development purposes.

2.3.4.3. Depreciation

The amount of depreciation included as a cost is the total annual depreciation for all used and useful assets for the test year.

2.3.4.4. Income and Other Taxes

2.3.4.4.1. A licensee's taxes are an expense that should be recoverable as a business cost in providing regulated service.

2.3.4.4.2. Two taxes could directly affect a transmission licensee's operations in Bangladesh –land tax, and income tax.

2.3.4.4.2.1. To the extent that licensee makes payroll or invoice deductions from employee or contractor payments, for payment to the government, these are not included in the licensee's cost of service for tariff rate design purposes. To the extent that the licensee provides matching payments to these deductions above the amount collected, then these are booked as an expense as part of the cost of service. If the licensee makes any other tax payments not already discussed in this methodology that has a direct result on the transmission of natural gas, then these are booked as an expense as part of the cost of service.

2.3.4.4.2.2. Land tax is not directly affected by the amount of transmission and generally is booked as a miscellaneous cost.

2.3.4.4.2.3. Income tax is charged as follows: (1) for a company which is not publicly traded, the rate is 40%; and (2) a publicly traded company has a rate of 30%. The transmission licensee, for income tax purposes will fall under either category (1) or (2), and must support in the rate case filing, the rate being applied by the tax department.

2.3.4.4.3. At the time of importing materials to Bangladesh , the licensee pays a VAT, a Customs Duty, and Advanced Income Tax. Advanced Income Tax is charged at the rate of 2.5% of the invoice value of the imported item.

2.3.4.4.3.1. For imported materials, the VAT and Customs Duty charged are a part of the acquisition cost of the asset or

material, and should be included when booking the asset or material as part of its acquisition value. That amount will be used for purposes of depreciation and for computing a return on assets.

2.3.4.4.3.2. If the licensee pays VAT on any item it purchases, it is included in the book cost of that asset or item as part of the acquisition cost of the item for Tariff Rate design purposes.

2.3.4.4.4. In addition to the advance income tax collected on import of materials, the licensee will pay estimated advance income tax to the Government on a quarterly basis. The licensee will make an estimate of taxes for the fiscal year. The licensee has an obligation to pay, in advance payments, at least 75% of the estimated taxes. Each quarter, the licensee then adjusts the estimate for the new quarter based upon actual revenues and tax liability for the past quarter. At the end of the fiscal year, the income tax payable is netted against the advanced income tax, paid via quarterly payments as well as per the advance income tax collected upon import of materials, and the net payable income tax is submitted to the government. If the accumulated advance income tax exceeds the amount of income tax owed to the government for that fiscal year, then no additional income tax is paid, and any surplus advance income tax is carried forward on the books into the next fiscal period.

Advanced income tax is a prepayment and a portion should be included in regulatory working capital, as described in the working capital section.

2.3.4.4.5. The amount of income tax to be included as a cost expense for tariff rate design during the test year is the actual amount of income tax paid to the Bangladesh government as booked for the test year.

Therefore, the taxes included for tariff rate design purposes within a test year are:

Taxes = Land Tax + Income Taxes Paid

2.3.5. Recommended Operating Revenues

2.3.5.1. The recommended operating revenues would be the sum of the proposed return on rate base plus the total operating expenses which include the current year depreciation, and taxes.

Recommended Operating Revenue = Proposed Return on Rate Base + Operating Expenses

2.3.5.2. This amount is compared to the current operating revenues to determine the amount of the increase required that the licensee will have the opportunity to earn to achieve the revenue requirement.

2.3.6. Total Current Operating Revenues

2.3.6.1. The total current operating revenues would be the sum of transmission service revenues, income from other services rendered, any interest income, and any miscellaneous income.

Total Current Operating Revenues = Transmission + Other Service + Interest + Miscellaneous

2.3.7. Proposed Revenue Increase

2.3.7.1. The proposed revenue increase is the difference between the current revenues and the recommended operating revenues. This difference is the amount of revenue that rates would need to be increased to provide the licensee with the opportunity to achieve the recommended rate of return and receive sufficient funds to cover operating expenses.

Proposed Revenue Increase = Recommended Operating Revenues - Current Revenues

2.3.7.2. This proposed revenue increase is going to be subject to income tax. If this proposed increase is directly added to current revenues, then the licensee after implementing the increase would not receive the recommended operating revenues. Future revenues would be reduced by the amount of the increased taxes. To insure the licensee has the opportunity to earn the revenues recommended, the amount of the increase is "grossed up". Essentially, the increase is enlarged to allow for the increased taxation. A revenue conversion factor is developed which is multiplied times the revenue increase.

2.3.7.2.1. The revenue conversion factor is calculated by computing a formula. The formula is the number "1" divided by the number "1 minus the effective income tax rate".

Revenue Conversion Factor = $1 / (1 - \text{Income Tax Rate})$

2.3.7.2.2. Once the conversion factor has been developed, the amount of the increase is multiplied times the proposed revenue increase to develop a recommended revenue increase.

Recommended Revenue Increase = Proposed Revenue Increase * Revenue Conversion Factor

2.3.8. Total Recommended Revenue Requirement

The total recommended revenue requirement is the sum of the current revenues plus the recommended revenue increase.

Recommended Revenue Requirement = Total Current

Revenues + Recommended Revenue

Increase

2.4. Uniform Transmission Rate

2.4.1. The uniform transmission rate is simply computed by dividing the recommended revenue requirement by the annual transmission throughput in thousand cubic meters.

$$\text{Transmission Rate} = \frac{\text{Recommended Revenue Requirement}}{\text{Annual Transmission Throughput}}$$

ANNEX A – Uniform Transmission Rate

A simple summary table of a cost of service follows. This provides an executive summary of how the cost of service produces the final recommendation. More detailed information will follow, which provides the input elements for the factors used in this sample table.

Sample Summary of Cost of Service

1. RATE BASE	
Transmission Assets In Service	24,250,000,000 Taka
Accumulated Depreciation	172,000,000 Taka
Accumulated Depreciation	- 7,760,000,000 Taka
TOTAL RATE BASE	16,662,000,000 Taka
2. Proposed Rate of Return (decimal)	0.1
3. Proposed Return on Rate Base	1,666,200,000 Taka
4. OPERATING EXPENSES	460,050,000 Taka
Depreciation (Test Year)	853,000,000 Taka
Taxes Other Than Income	50,000 Taka
Total Operating Expenses Before Income Tax	1,363,050,000 Taka
Income Tax (37.5%)	32,000,000 Taka

TOTAL OPERATING EXPENSES	1,395,050,000 Taka
5. RECOMMENDED OPERATING REVENUE	3,061,250,000 Taka
6. CURRENT OPERATING REVENUES	
Transmission Service Sales	2,600,000,000 Taka
Income from Services Rendered	6,000,000 Taka
Interest Income	75,000,000 Taka
Miscellaneous Revenue	0 Taka
TOTAL CURRENT OPERATING REVENUES	2,681,000,000 Taka
7. PROPOSED REVENUE INCREASE	380,250,000 Taka
8. REVENUE CONVERSION FACTOR	1.6
9. RECOMMENDED REVENUE INCREASE	608,400,000 Taka
10. TOTAL RECOMMENDED REVENUE REQUIREMENT	3,289,400,000 Taka
11. TRANSMISSION THROUGHPUT (MCM)	8,864,000,000,000
PROPOSED TRANSMISSION RATE (Taka per MCM)	0.000371*

*The rate per cubic meter would be 0.371 Taka per Cubic Meter

Simple Explanation of Calculation

Step 1

In terms of this example, the assets of the company are accumulated – the original costs of the physical assets, and the regulatory working capital. From that the accumulated depreciation of the physical assets is deducted. Thus the remaining value included in this asset amount is the net book value of the physical assets. This accumulation of assets becomes the calculation basis for computing a return on assets. More detailed discussions of what should be included in

assets are prescribed elsewhere in this regulation.

Step 2

For this example, an arbitrary rate of return was selected. For purposes of rate design, in a regulatory case, the rate of return on rate base is the result of an exhaustive financial and economic analysis. The ultimate rates produced by the application of this return should as fair as possible for the customers – producing the lowest cost possible within the accounting and economic criteria developed in this rate case process. It should also be as fair as possible to the transmission company in order to allow it to provide reliable natural gas service – recovering its costs and providing for the economic capability to maintain, and grow the system. The return should be reasonably sufficient to secure confidence in the financial soundness of the utility, and enable it to raise the money necessary for the proper discharge of its public duties. The development of the rate of return is addressed much more extensively elsewhere in this regulation.

Step 3

The sum of the assets, less accumulated depreciation, is then multiplied times the rate of return from Step 2. This results in a proposed return on qualifying rate base. It is the earnings allowable to the utility based upon its investment in assets.

Step 4

The expenses are then accumulated. In addition to normal operation and maintenance expenses, taxes are included. Income taxes are included because this is an expense to the company as is any other operating expense. One of the purposes of this cost of service analysis is to produce rates that cover all expenses and to provide operating funding above expense which can be used to expand the system and provide capital for investors to continue to fund the operations.

Step 5

The recommended operating revenues are then computed by adding the return on rate base computed in step 3 plus the sum of the operating expenses computed in step 4. This is the amount of revenue that the utility should be receiving today.

Step 6

In step 6, all of the current revenues are summed.

Step 7

In step 7, the current revenues computed in step 6 are subtracted from the recommended revenues computed in step 5. This difference is the amount that current revenues need to increase in order to achieve the recommended revenues.

Step 8

In step 8, a revenue conversion factor is computed. This is a formula which is computed as the number "1" divided by the number "1" minus the effective income tax rate. In this example, it is $1/(1-0.375)$, which equals 1.6 – with the income tax rate set at 37.5%. The reason that this is computed is that the revenue increase computed in step 7, if received as part of earnings, would also be charged income taxes. Therefore the utility would not receive the recommended revenue increase after taxes. So the revenue needs to be "grossed up", so the net revenue received after taxes equals the amount of revenue increase recommended.

Step 9

In step 9, the proposed revenue increase from step 7 is multiplied by the revenue conversion factor computed in step 8.

Step 10

In step 10, the current revenues from step 6 are added to the proposed revenue increase from step 9, and this produces the total revenue requirement. This is the total amount of revenue that the transmission company should receive from the rates it charges to cover all expenses and provide a return on assets.

Step 11

In step 11, the utility lists the total amount of annual throughput in MCM that is transported through its mains.

Step 12

In step 12, the revenue requirement computed in step 10 is divided by the throughput from step 11, and this produces a rate per MCM, or if this rate is multiplied by 1000, then that rate would be the amount in taka per cubic meter (CM) that the transmission utility should charge its customers.

This example is rudimentary, but it illustrates the major steps in computing a transportation rate. It assumes that the customers all have the same transmission rate and that rates are uniform over all distances on the transmission system.

ANNEX B

TRANSMISSION TARIFF METHODOLOGY FORMULA SUMMARY

A just and reasonable natural gas transmission tariff rate is calculated using the following summary. For details in applying these formulas, please review the text of the methodology.

**Total Annual Revenue Requirement = Return on Rate
Base + Total Costs**

**Rate Base = Depreciated Used & Useful Assets +
Regulatory Working Capital**

Transmission Regulatory Working Capital = Cash

**Working Capital + Materials and Supplies Inventory +
Prepayments**

**Cash Working Capital = 1/6 x (Annual Operation &
Maintenance Expenses)**

**Materials and Supplies Inventory = (Total of 12 Months
Value Materials and Supplies) / 12**

**Average Cost of Capital = [(Equity Capital x E%) +
(Debt Capital x D%)]**

[(Equity Capital + Debt Capital)]

**E% = [(Common Stock Amount x Dividend Rate) +
(Remaining Equity Amount x Non-Stock Rate)]**

[(Common Stock Amount + Remaining Equity Amount)]

**D% = [(Long Term Debt x Debt Rate) + (Preferred Stock
Amount x Dividend Rate)]**

[(Long Term Debt + Preferred Stock Amount)]

**Total Costs = O&M Costs + Depreciation + Income &
Other Taxes**

**Recommended Operating Revenue = Proposed Return
on Rate Base + Operating Expenses**

**Total Current Operating Revenues = Transmission +
Other Service + Interest + Miscellaneous**

Proposed Revenue Increase = Recommended Operating Revenues - Current Revenues

Revenue Conversion Factor = $1/(1 - \text{Income Tax Rate})$

Recommended Revenue Increase = Proposed Revenue Increase * Revenue Conversion Factor

Recommended Revenue Requirement = Total Current Revenues + Recommended Revenue Increase

Transmission Rate = Recommended Revenue Requirement/Annual Transmission Throughput*

*** Assuming uniform rates and level of service.**