
Draft

Regulations for
Determination of
Pipeline Tariff
for Natural Gas
Pipelines

Petroleum & Natural Gas Regulatory
Board, New Delhi

November 29, 2007

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NOTIFICATION

New Delhi, the.....

PETROLEUM AND NATURAL GAS REGULATORY BOARD

In exercise of the powers conferred by clauses (t) and (y) of sub-section (2) to section 61 of the Petroleum and Natural Gas Regulatory Act, 2006 (19 of 2006), the Petroleum and Natural Gas Regulatory Board hereby makes the following regulations, namely:-

1 Short Title and commencement-

- 1.1 These Regulations may be called The Petroleum and Natural Gas Regulatory Board (Determination of Pipeline Tariff for Natural Gas Pipelines) Regulations, 2007.
- 1.2 These Regulations shall come into force on the date of their publication in the Official Gazette.

2 Definition

- a. In these Regulations, unless the context otherwise requires-
 - i. "Act", means the Petroleum and Natural Gas Regulatory Board Act, 2006;
 - ii. "Appointed Day" means the date of October 1, 2007.
 - iii. "Board" means the Petroleum and Natural Gas Regulatory Board established under sub-section (1) of Section 3 of the Act.

- iv. "Natural Gas Pipeline" – means any pipeline, including spur lines, for transporting or supplying of natural gas and includes all connected infrastructure, like, spur lines, compressors, storage facilities, metering units, etc. except for-
 - a) a dedicated pipeline laid to supply natural gas to any specific consumer originating from a regulated pipeline, provided the same is for its own use and not for re-sale, and
 - b) pipelines in a city or local natural gas distribution network covered under the Regulations for Authorizing Development of City or Local Natural Gas Distribution Networks.
- b. All other words and expressions used herein but not defined shall have the same meanings respectively assigned to them in the Act.
- c. Unless defined herein or in the Act, the provisions of the General Clauses Act, 1897 as amended from time to time shall apply to these Regulations.

3 Scope

These regulations shall apply to an entity-

- 3.1 selected on the basis of single bid for laying, building, operating or expanding a natural gas pipeline, under the Regulations for Authorizing Entities for the Development of Natural Gas Pipelines.
- 3.2 authorized by the Central Government for development of natural gas pipeline before the appointed day.

- 3.3 laying, building, operating or expanding a natural gas pipeline before the appointed day and authorized by the Board for such activities under the Regulations for Authorizing Entities for the Development of Natural Gas Pipelines.
- 3.4 owning a dedicated pipeline laid to supply natural gas to a specific customer for conversion in to a natural gas pipeline.

4 **Determination of pipeline tariff**

- 4.1 Pipeline tariff refers to the unit rate of pipeline tariff ¹ (denominated in Rupees per thousand standard cubic meter or Rs./ MSCM) for transportation of natural gas in a natural gas pipeline.
- 4.2 The pipeline tariff shall be determined as per the criteria at **Annexure-A**.

5 **Formats for Data submission for determination of pipeline tariff**

The entity is obligated to submit to the Board the financial, cost and other data in the formats enclosed as **Attachments – 1 to 1 i)**:

- 5.1 For the category under clause 3.1 above, this information will form part of the formats seeking information from the entities participating in the bid under the Regulations Authorizing Entities for Development of Natural Gas Pipelines.
- 5.2 For the category under clause 3.2 above, this information is to be submitted within 30 days of the notification of these Regulations.

¹ While for the bidding purpose, the entity may bid for the pipeline tariff on a postalized basis, the actual recovery of the pipeline tariff could be allowed under different methods, viz., distance-based with/ or without volumes delivered, telescopic basis, zonal system, entry-load exit-load system, etc. The Board invites suggestions/ comments on this issue and also on the administrative mechanism to be put in-place to ensure that the overall revenue recovery by the entity is in line with the bid.

5.3 For the category under clauses 3.3 & 3.4 above, this information is to be submitted along with the application seeking grant of authorization or seeking conversion of a dedicated pipeline, as the case may be under the Regulations Authorizing Entities for the Development of Natural Gas Pipelines.

6 Miscellaneous

If any dispute arises with regards to the interpretation of any of the provisions of these regulations, the decision of the Board shall be final. Further, the Board may at any time effect appropriate modifications in these regulations.

Procedure for Determination of Pipeline Tariff (as per Clause 4 of the Regulations for Determination of Network Tariff for Natural Gas Pipelines)

- 1 The pipeline tariff of a Natural Gas Pipeline shall be determined in accordance with the following principles:
 - a) A reasonable rate of return on investments;
 - b) Investments resulting in creation of an efficient & safe infrastructure; and
 - c) Normative level of operating expenses required for efficient operation (including quality of service) of natural gas pipeline.

2 Financial Feasibility

The entity to which these Regulations apply is obligated to submit all financial details of the natural gas pipeline project that may be required by the Board in determination of the Pipeline Tariff.

3 Methodology for determination of pipeline tariff

The tariff to be charged for a period shall be the calculated based on “Discounted Cash Flow” (DCF) methodology ² considering reasonable rate of return determined as per clause 4 below. The parameters relevant to the applicability of the DCF methodology have been described in detail in clauses 4 to 6 below.

4 Reasonable Rate of Return

² Discounted Cash Flow refers to equating the inflows from the projected revenue earnings with the outflows of capital and operating expenditures over the economic life of the project by discounting these flows at the project's reasonable rate of return determined as per clause 4. The volumes and outflows are estimated over the economic life, which results in the determination of the tariffs required to be earned by the project to achieving the reasonable rate of return.

4.1 The rate of return on capital employed shall not be higher than the average rate of long-term Government Securities issued by the RBI during the period of 12 months prior to submission of application + X%. The X% shall provide incentive to entities for making investment in the development of natural gas pipelines in the country. The X% shall normally be fixed for a period of at least one year taking inter alia into account the weighted average cost of capital (WACC) for such projects. However, considering the economic scenario in the country and the area / region to be served, the Board may review this X%, even before the completion of one year period.

4.2 The rate determined as per clause 4.1 shall be grossed up for the nominal applicable rate of income tax and the rate so derived shall be referred to as **reasonable rate of return**. This grossing-up shall be restricted to the first 10 years of the operations of the natural gas pipeline³ and for the remaining period up to the economic life of the project, grossing-up at the actual income tax rate of the entity⁴ shall be allowed. The grossing-up for the first 10 years of city or local natural gas distribution networks shall be allowed irrespective of any exemption or waiver of income tax allowed to the entity during this period, under the provisions of the Income Tax Act, 1961.

5 Return on Total Capital Employed

5.1 The reasonable rate of return shall be used to determine the return on total capital employed in the project over its economic life and the authorized entity is free to leverage the project financing in any suitable manner.

5.2 The total capital employed shall be equal to the Gross Fixed Assets in the project less Depreciation (as per the rates allowed under Schedule VI to the Companies

³ Grossing-up of the rate of return with the applicable nominal rate of tax is allowed as it is expected that the entity, during the initial 7-10 years of the project commissioning, would require a financial support and also flexibility in terms of project financing & tax planning/ management.

⁴ Actual income tax rate shall be arrived at by dividing the income tax (not including any penalty, interest and income tax set-off for any previous year) by the sales revenue of the assessment year as per the final Income Tax assessment order.

Act, 1956) plus Normative Working Capital (Equal to 30 days of operating cost excluding depreciation).

5.3 The Gross Fixed Assets shall be equal to the actual or that normatively assessed by the Board, whichever is lower, as required in the project over its economic life as per the following principles⁵ that may be considered as required to create an efficient and robust infrastructure:

- a. Capital costs in similar projects elsewhere in India benchmarked on a “like-to-like” basis.
- b. Appropriateness of the pipeline design and the operating philosophy with regards to maximum allowable operating pressure.
- c. Optimization of the equipments and facilities (CNG compressors, metering systems, SCADA, fire fighting, etc.) required based on an assessment of the appropriate available technology.
- d. Spur line (s) other than that required for a specific consumer.
- e. Design parameters & fuel consumption norms of the equipments, like, compressors.
- f. Assessment of the latest costs (excluding the financing cost) of major equipments in the pipeline system - pipelines, compressors, laying/ building costs, project management consultancy, pre-operative expenditure, etc.

6 Operating costs

⁵ The parameters identified here are not exhaustive and may vary depending upon the specific project under consideration. The Board shall decide these parameters in a transparent manner.

Operating costs ⁶ required in the operation and maintenance of the natural gas pipeline over its economic life shall be allowed, on an actual basis or that assessed by the Board, whichever is lower, over the following heads:

- a. Consumables
- b. Utilities (Power, Fuel and Water)
- c. Salaries & Wages
- d. Repairs & Maintenance
- e. Insurance premia on assets (excluding the value of loss of profit) and on pipe line-fill quantity (in case the shipping of natural gas is also undertaken by the entity laying, building, operating or expanding the natural gas pipeline as a bundled operation)
- f. Administrative Overheads
- g. Depreciation (based on rates as per Schedule VI to the Companies Act, 1956)
- h. Miscellaneous income, if any, shall be netted from the operating cost

7 Volumes to be considered in determination of the unit pipeline tariff

The Board shall assess the volumes of natural gas to be transported in the natural gas pipeline over its economic life and to be considered in the determination of the

⁶ Operating costs are those which are necessary for a proper upkeep and maintenance of a tangible asset created for operation of the pipeline system and does not include any financial cost, like, interest on loans, bad-debts, sales promotion/ advertisement expenses (except for tenders), expenditure incurred in raising or servicing of capital/ debenture/ bond/ debt, exchange variation on revenue account, but includes normal bank charges, bank guarantee charges, LC charges and bank charges for bid & performance bonds required as per the terms of authorization.

unit pipeline tariff on a normative basis ⁷ considering the bare minimum period required for achieving optimum capacity utilization.

8 Economic Life

8.1 The economic life of the natural gas pipeline project consisting of pipeline (including spur lines) and other allied equipments (including compressor (s)) and facilities is normally expected to be for a period of 25 years.

8.2 During this period of the economic life, the entity may be required to carry out the following activity (ies) -

8.2.1 further expansion in the capacity of the natural gas pipeline (through commissioning of additional compressors, looping of pipeline, etc.),

8.2.2 extension of natural gas pipeline,

8.2.3 provide inter-connection to other natural gas pipelines and/ or

8.2.4 lay, build and operate additional spur-lines, including expansion

beyond that considered in the grant of authorization under the Regulations Authorizing Entities for Development of Natural Gas Pipeline for meeting entity's own incremental requirements or other entities incremental requirements. The entity may submit a detailed techno-economic feasibility for an assessment by the Board and the decision of the Board in this regard may be final. The Board may also, in consumers' interest, direct the entity to commission aforementioned activity (ies).

8.3 The entity shall be obligated to carry out the replacements and upgradation of assets & facilities as and when necessary in order to maintain the natural gas

⁷ It is normally expected that an entity shall achieve a level of at least 70% utilization of the own & firm capacity by the end of 3rd year of commissioning of the natural gas pipeline. The level of utilization should progressively increase to 90% by the 5th year and to 100% no later than in the 7th year of the natural gas pipeline commissioning.

pipeline's system integrity at all times including keeping it abreast of technical advancements.

8.4 Commencement of the economic life of the natural gas pipeline project

8.4.1 In case an entity proposes to lay, build or expand a natural gas pipeline after the appointed day-

The date of grant of authorization to the entity by the Board as per the Regulations Authorizing Entities for Development of Natural Gas Pipelines.

8.4.2 In case an entity is laying, building or expanding natural gas pipeline before the appointed day-

The entity should have either an authorization from the Central Government before the appointed day or an authorization from the Board as per the Regulations Authorizing Entities for Development of Natural Gas Pipelines. For such an entity, the economic life of the natural gas pipeline project shall commence from the start-up date of the commencement of physical activities of laying, building or expanding the natural gas pipeline.

8.5 At the end of the economic life of the natural gas pipeline project, the issue of allowing further extension of the economic life of the project under the same authorization may be considered by the Board, and on such terms and conditions, as it may deem fit at that point in time. The broad principles which the Board may consider in this regard are given below-

8.5.1 Adherence by the entity to the technical standards, specifications and safety standards of the Board for the natural gas pipeline.

8.5.2 Determination of pipeline tariff for the natural gas pipeline on a normative basis, as applicable to a single bid for a natural gas pipeline and also subject to an assessment by the Board of the revised DFR of the entity for modernization or expansion of the natural gas pipeline.

8.5.3 Submission of Performance bond as prescribed under clause 4.3 of the Regulations for Authorizing Entities for the Development of Natural Gas Pipelines.

8.5.4 Meeting the service obligations as prescribed under the Regulations for Authorizing Entities for the Development of Natural Gas Pipelines.

9 Tariff Review

9.1 A Tariff review shall be carried out for each “Review Period”.

9.2 The tariff review period shall normally be a period of three years (commencing from 1st of April and ending on 31st March of next year) from the end of the third year of the economic life of the project.

9.3 The actual performance with respect to the capital & operating costs during the previous review period shall be monitored against the parameters identified under clauses 5 to 6 and the variations shall be adjusted in the tariff calculations.

9.4 The adjustment for volume to be used as divisor in the determination of the unit pipeline tariff in the review period shall be higher of-

(i) actual volumes achieved during the preceding period, or

(ii) volume divisor considered in the preceding period, or

(iii) volume quoted in the bid (or the detailed feasibility report (DFR) considered in the grant of authorization to the entity) for the review period.

9.5 The effect of the changes required for a review period referred to in clause 9.3 and 9.4 above shall be made in the tariff calculations on a prospective basis.

9.6 However, the Board either may, on its own or on the entity's request, carry out a review in between two tariff review periods, considering:

- (i) the requirements of the activity (ies) stated under clause 8.2 above to the extent not envisaged earlier and necessitating incremental investments.
- (ii) applicable Nominal Income Tax Rate during the initial 10 years of the commissioning of the project.
- (iii) sudden change in any parameter used in determination of the pipeline tariff.

10 Interconnection of Natural Gas Pipeline

10.1 The interconnection of a natural gas pipeline with other pipeline for transportation of natural gas shall be as per the provisions for **Regulations for Access Code for Natural Gas Pipelines**.

10.2 The capital and operating costs in the inter-connection shall be borne by the entity seeking inter-connection for the other pipeline for transportation of natural gas. In case the other pipeline is authorized as natural gas pipeline under the Regulations for Authorizing Entities for Development of Natural Gas Pipelines, such costs shall be considered in the determination of the pipeline tariff as per the provisions under these Regulations for Determination of Pipeline Tariff for Natural Gas Pipelines.

10.3 In the case the inter-connectivity involves putting-up of new compressor (s) or upgradation of the existing compressor (s) and the same is attributable to

the entity seeking inter-connectivity for its natural gas pipeline, that entity shall fully bear the full inter-connection charge.

11 Role of Consultants

- a) The Board may, appoint consultant (s) for independent verification/ assessment of-
- (i) Estimates of capital/ operating cost and volume build-up estimates submitted by the entity.
 - (ii) Any or all technical parameters of the natural gas pipeline project.
 - (iii) Any other issue as may be required considering the assumptions used by the entity in submission of the financial bid.
- b) The entity, on the directions of the Board, shall render all assistance to the consultant(s) in such independent verification/ assessment exercise and provide requisite data and explanations as may be required.
- c) The board may, seek assistance from consultant (s) in the development of suitable internal benchmarks in appraisal of the bids.
- d) The role of the consultant (s) shall be recommendatory and not binding on the Board.