

PETROLEUM AND NATURAL GAS REGULATORY BOARD

NOTIFICATION

New Delhi, the 20th November, 2008

G.S.R. 807(E).--- In exercise of the powers conferred by Section 61 of the Petroleum and Natural Gas Regulatory Board Act, 2006 (19 of 2006), the Petroleum and Natural Gas Regulatory Board hereby makes the following regulations, namely:-

1. Short title and commencement.

- (1) These regulations may be called the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Regulations, 2008.
- (2) They shall come into force on the date of their publication in the Official Gazette.

2. Definitions.

- (1) In these regulations, unless the context otherwise requires,-

(a) “Act” means the Petroleum and Natural Gas Regulatory Board Act, 2006;

(b) “appointed day” means the date of October 1, 2007;

¹[(ba) “approved tariff” means zone-wise natural gas pipeline tariff determined under regulation 4 or zone-wise tariff as per regulation 11 of the Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Lay, Build, Operate or Expand Natural Gas Pipelines) Regulations, 2008;]

(c) “Board” means the Petroleum and Natural Gas Regulatory Board established under sub-section (1) of section 3 of the Act;

(d) “capacity of natural gas pipeline” means the capacity of natural gas pipeline as specified under the Petroleum and Natural Gas Regulatory Board (Authorizing Entities for Laying, Building, Operating or Expanding Natural Gas Pipelines) Regulations, 2008;

Provided that the capacity of natural gas pipeline in respect of entity authorized by the Central Government for laying, building, operating or expanding natural gas pipelines before the appointed day shall be as approved by the Board as per the basis specified in the relevant regulations for determining the capacity of natural gas pipeline;

(e) “initial unit natural gas pipeline tariff” means the unit natural gas pipeline tariff determined for a period commencing from-

¹ Ins. by pt. (i) of Cl. (a) of Reg. 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2020.

- (i) the date of commissioning of the natural gas pipeline in any financial year and ending on the last day of that financial year in case the natural gas pipeline is commissioned on or after the notification of these regulations; or
- (ii) the date of coming of the natural gas pipeline within the purview of these regulations in any financial year and ending on the last day of that financial year in case the natural gas pipeline is commissioned before the notification of these regulations;

Provided that in case the period between the date of commissioning of the natural gas pipeline or the date of coming of the natural gas pipeline within the purview of these regulations in any financial year, as the case may be, and the last day of the financial year is less than one hundred and eighty three days, the initial unit natural gas pipeline tariff shall be a for period commencing from the date of commissioning of the natural gas pipeline or the date of coming of the natural gas pipeline within the purview of these regulations in the financial year and extend up to the last day of the immediately succeeding financial year:

Provided further that the initial unit natural gas pipelines tariff shall be fixed on a provisional basis first and then finalized as per the basis and in the time frame specified under clause 9 of Schedule A.

- ²[(ea) “invoicing entity” means the authorised entity laying, building, operating or expanding natural gas pipeline, where natural gas is evacuated by the shipper at unified exit point, or which is part of national gas grid system;
- (eb) “MMBTU” means million British Thermal Units on gross calorific value (“GCV”) basis;
- (ec) “national gas grid system” means network of all such natural gas pipelines within India which are fully interconnected with each other (including those which are partly commissioned and so interconnected) and as enlisted in Schedule C to these regulations and the Board may, by order, amend the said Schedule C from time to time;]
- (f) “natural gas pipeline” means any pipeline including spur lines for transport of natural gas and includes all connected equipments and facilities, such as, compressors, storage facilities, metering units but excludes-
 - (i) dedicated pipeline laid to transport natural gas to a specific customer to meet his requirement and not for resale;
 - (ii) pipelines in a city or local natural gas distribution network which are regulated by the Petroleum and Natural Gas Regulatory Board

² Ins. by pt. (ii) of Cl. (a) of Reg. 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2020.

(Authorizing Entities to Lay, Build, Operate or Expand City or Local Natural Gas Distribution Networks) Regulations, 2008;

(g) “natural gas pipeline tariff” means the unit rate of tariff for a natural gas pipeline (excluding statutory taxes and levies) in rupees per million British Thermal Units (Rs. /MMBTU) for transport of natural gas;

³[(h) “tariff review” means the review of the unit natural gas pipeline tariff after every five consecutive years by the Board with the first tariff review to be done after the end of five consecutive years after the end of the initial unit natural gas pipeline tariff period as specified under clause (e):

Provided that the unit natural gas pipeline tariff so determined at the time of any tariff review shall apply for the period up to the next tariff review:

Provided further that the gap between two tariff reviews shall not be less than two consecutive financial years after the end of the financial year in which last tariff fixation occurred:

Provided also that the tariff review can be done earlier in terms of provisions of sub-clause (9) of clause 9 of Schedule A;]

(i) “tariff zone” means the zone –

(i) of a length of three hundred kilometers each along the route of the natural gas pipeline from the point of origin till the end point:

Provided that the last zone of the natural gas pipeline may be of a length of three hundred kilometers or less:

Provided further that any natural gas pipeline of a length less than three hundred kilometers shall be counted as a zone; and

(ii) a corridor along the natural gas pipeline with a width of up to ten percent of the total length of the natural gas pipeline without including the length of the spur lines or fifty kilometers measured from the nearest point on the surface of the natural gas pipeline on both sides, and including the point of origin and the end point of the natural gas pipelines, whichever is less, and-

(a) the first tariff zone shall be counted with reference to any zone in which the point of injection of natural gas into the natural gas pipeline falls; and

³Subs. by Cl. (a) of Reg. 3, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Amendment Regulations, 2019, for ‘clause (h) of sub -reg. (1) of Reg. 2’ (w.e.f. 27.05.2019).

- (b) the subsequent tariff zone or tariff zones, as the case may be, shall be counted separately on either side along the contractual path for delivery of natural gas in the natural gas pipeline;

Provided that natural gas pipeline tariff for transport of natural gas from the same source shall be uniform for all the customers located within the zone:

Provided further that the entity shall supply natural gas to any customer located in the zone subject to the techno-commercial feasibility of laying, building, operating or expanding a new spur line from the natural gas pipeline.

Explanation:-

For the purposes of this clause, the point of origin and the end point in the natural gas pipeline as also the sequential numbering of the tariff zone or tariff zones, as the case may be, shall be as indicated in the letter of authorization or fixation of the natural gas pipeline tariff by the Board.

[(j) “tariff zones for unified tariff” means the-

- (i) first tariff zone for unified tariff of a length of three hundred kilometres from the unified entry point on either side of the national gas grid system; or
- (ii) second tariff zone for unified tariff, being the remaining length of the national gas grid system on either side of first tariff zone for unified tariff:

⁴(k) “unified tariff” means unit natural gas pipeline tariff, in respect of the national gas grid system determined in accordance with regulation 5A, for transportation of natural gas (excluding statutory taxes and levies) denominated in rupees per MMBTU;

(l) “unified contractual path” means the route on the national gas grid system between the unified entry point and the unified exit point for a shipper;

(m) “unified entry point” means the point on the national gas grid system where a shipper injects natural gas;

(n) “unified exit point” means the point on the national gas grid system from where a shipper evacuates natural gas.]

⁴ Ins. by pt. (iii) of Cl. (a) of Reg. 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2020.

- (2) Words and expression used and not defined in these regulations, but defined in the Act or in the rules or regulations made thereunder, shall have the meanings respectively assigned to them in the Act or in the rules or regulations, as the case may be.

3. Application.

These regulations shall apply to an entity-

- (1) authorized by the Central Government under regulation 17 of the Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Lay, Build Operate or Expand Natural Gas Pipelines) Regulations, 2008 for laying, building, operating or expanding a natural gas pipeline before the appointed day;
- (2) laying, building, operating or expanding a natural gas pipeline before the appointed day and authorized by the Board for such activities under regulation 18 of the Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Lay, Build, Operate or Expand Natural Gas Pipelines) Regulations, 2008; and
- (3) laying, building, operating or expanding a dedicated pipeline which is converted into a natural gas pipeline under the provisions of sub-regulation (1) or (2) of regulation 19 of Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Lay, Build, Operate or Expand Natural Gas Pipelines) Regulations, 2008.
- ⁵[(4) authorized by the Board pursuant to a policy directive issued by the Central Government under sub-section (2) of section 42 of the Act;
- (5) authorised by the Board under regulation 9 of the Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Lay, Build, Operate or Expand Natural Gas Pipelines) Regulations, 2008 and whose tariff is fixed under regulation 11 of the Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Lay, Build, Operate or Expand Natural Gas Pipelines) Regulations, 2008, for the limited applicability of unified tariff in accordance with regulation 5A.]

⁶[4. Determination of natural gas pipeline tariff.

- (1) The natural gas pipeline tariff in respect of an entity covered under sub-regulation (1), sub-regulation (2) or sub-regulation (3) of regulation 3 shall be determined as per the procedure at Schedule A.
- (2) Prior to determination of the natural gas pipeline tariff, the Board shall issue a public notice on its website containing a public consultation document providing an opportunity to stakeholders (including the entity concerned) to participate in the determination of the natural gas pipeline tariff.

⁵ Ins. by Cl. (b) of Reg. 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2020.

⁶ Subs. by Reg. 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2014, for Reg.4 (w.e.f. 27.02.2014).

- (3) Stakeholders (including the entity concerned) may submit their comments in writing within fifteen days from the date of webhosting of the public notice.
- (4) On the expiry of the period provided for stakeholder comments as referred to in sub-regulation (3), the Board shall forward the comments received to the entity concerned for it to submit its response within fifteen days of the receipt thereof. The Board may, if required, also invite all stakeholders who have offered their comments including the entity concerned for discussions. The Board shall after considering the tariff filings by the entity, the comments of other stakeholders, the response of the entity concerned and discussions, if any, issue the tariff order.]

5. Form for data submission by entity for determination of natural gas pipeline tariff.

Every entity shall submit to the Board the financial costs and other data in the form at Attachment 1 of Schedule A, if, as on the day of the notification of these regulations, the natural gas pipeline –

- (1) is not in operation, then at least six months before the likely date of commissioning of the natural gas pipeline, or within ninety days of the date of notification of these regulations, whichever is later; or
- (2) is already in operation, then, in relation to an entity referred to in –
 - (a) clause (1) of regulation 3, within ninety days of the notification of these regulations;
 - (b) clause (2) of regulation 3 within ninety days of the grant of authorization by the Board; or
 - (c) clause (3), within ninety days of the date of authorization by the Board:

Provided that the entity shall charge initial unit natural gas pipeline tariff “on account basis” based on these regulations from the date of commissioning of natural gas pipeline referred to in clause (1) of regulation 3 or the date of authorization by the Board of natural gas pipeline referred to in clause (2) or clause (3) of regulation 3, as the case may be, till the date the Board provisionally fixes the initial unit natural gas pipeline tariff:

⁷[Provided further that the initial unit natural gas pipeline tariff shall be provisionally fixed by the Board within six months of receipt of the relevant tariff data from the entity after which the entity shall carry out adjustments with a retrospective effect with the customers for the difference between the initial unit natural gas pipeline tariff that the entity had so charged and that provisionally fixed.]

⁷ Subs. by Reg. 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2012, for second proviso in sub-reg. (2) of reg.5 (w.e.f. 13.09.2012).

⁸[5A. Procedure for Determination of Unified Tariff and matters incidental thereto:

(1) Notwithstanding anything contained in these regulations, Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Lay, Build, Operate or Expand Natural Gas Pipelines) Regulations, 2008 and any other regulation made under the Act and for the time being in force, invoicing entity shall raise invoice towards and collect the unified tariff for unified contractual path instead of the approved tariff from the shipper and the shipper shall be liable to pay such unified tariff to such invoicing entity.

(2) The invoice referred to in sub-regulation (1), shall be raised for the quantity of gas delivered to the shipper by the transporter at the unified exit point and the ship or for pay quantity:

Provided that the entity laying, building, operating or expanding natural gas pipeline other than the one which is part of national gas grid system shall continue to charge the approved tariff from the shipper and the shipper shall continue to pay the approved tariff to such entity.

(3) Revenue entitlement of the entities laying, building, operating or expanding natural gas pipelines which are part of the national gas grid system under unified tariff system, shall be the revenue with reference to approved tariff for such natural gas pipelines, that is to say that the entities shall remain revenue neutral and the procedure for determination of unified tariff shall be as specified in Part A of Schedule B of these regulations and the procedure for settlement amongst the pipeline entities shall be as specified in Part B of Schedule B.

(4) Considering the experience and suggestions, if any, received from the stakeholders during the initial period of six months from the date of the commencement of the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulation, 2020, the Board may, by order notified in the official gazette, suitably modify the provisions of this regulation, wherever considered necessary, and on the issue of such order, this regulation shall be deemed to be modified accordingly.]

⁸ Ins. by Cl. (b) of Reg. 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2020.

⁹[6. Miscellaneous.

If any question arises as to the interpretation of these regulations, the same shall be decided by the Board.]

⁹ Subs. by 'Reg. 2', the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Amendment Regulations, 2014, for 'Reg. 6', (w.e.f. 01.01.2015).

Schedule A

[see regulations 4 and 5]

Procedure for determination of natural gas pipeline tariff.

The natural gas pipeline tariff shall be determined by considering a reasonable rate of return on normative level of capital employed plus a normative level of operating expenses in the natural gas pipeline.

Explanation:

The expression “normative level” shall be with reference to a level, which is both reasonable and justifiable in terms of incurrence of capital and operating expenditure required for laying, building, operating or expanding an efficient natural gas pipeline over its economic life.

1. Financial Feasibility.

The entity to which these regulations apply shall submit all technical, operating, financial and cost data of the natural gas pipeline project that may be required by the Board in determination of the natural gas pipeline tariff.

2. Methodology for determination of natural gas pipeline tariff.

The unit rate of natural gas pipeline tariff to be charged for a period shall be the calculated based on the “Discounted Cash flow” (DCF) methodology¹⁰ considering the reasonable rate of return as specified in clause 3 to be the project’s internal rate of return. The parameters relevant to the applicability of the DCF methodology have been described in detail in clauses 4 to 6 below.

3. Reasonable rate of return.

The rate of return on capital employed shall be the rate of return on capital employed equal to twelve percent post-tax. The rate of return on capital employed once applied to a natural gas pipeline project shall remain fixed for the entire economic life of the project.

Note:

The pre-tax rate of return on capital employed shall be computed by grossing-up twelve percent by the nominal rate of income tax applicable for corporate

¹⁰ Discounted Cash Flow methodology refers to equating the inflows from the projected revenue earnings out of natural gas pipeline tariff 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. The volumes and outflows are estimated over the economic life which results in the determination of the natural gas pipeline tariff required to be earned by the project to achieve the internal rate of return.

assesses as per the provisions of the income Tax Act, 1961, as amended from time to time.

¹¹[**Explanation-** For removal of doubt, it is clarified that in case more than one nominal rates of income tax are available as an option to the entity under the law relating to income tax, the lowest of such nominal rates of income tax shall be considered for the purpose of grossing-up the post-tax rate of return of twelve per cent for computing pre-tax rate of return on capital employed.]

4. Return on total capital employed.

- (1) The reasonable rate of return shall be applied on the total capital employed to determine the return on capital employed in the project over its economic life and the authorized entity is free to leverage the financing of the project in any suitable manner.
- (2) The total capital employed shall be equal to the gross fixed assets in the project less accumulated depreciation² plus normative working capital (equal to thirty days of operating costs excluding depreciation and eighteen days natural gas pipeline tariff receivables).
- (3) The gross fixed assets shall be equal to their actual historical cost of acquisition (including the cost of an subsequent replacement or improvement or modification) or that normatively assessed by the Board, whichever is lesser and required in the natural gas pipeline project over its economic life based on the principles³ to create and sustain an efficient infrastructure, namely:-
 - (a) treatment of an investment in the fixed asset in determination of total capital employed shall be as per the basis indicated in Attachment 2;
 - (b) capital costs in similar projects, if any, elsewhere in India benchmarked on a “like-to-like” basis;
 - (c) appropriateness of the pipeline design and the operating philosophy with regards to maximum allowable operating pressure;
 - (d) optimization of the equipments and facilities such as, compressors, metering systems, SCADA, firefighting required, based on an assessment of the appropriate available technology;
 - (e) spur lines;
 - (f) design parameters for compressors; and

¹¹ Ins. by Reg 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Amendment Regulations, 2020 (w.e.f. 27.03.2020).

² Depreciation shall be calculated by applying the rates of depreciation as specified in Schedule VI to the Companies Act, 1956 on the value of gross fixed assets on a straight line basis.

³ The basis and parameters identified here are not exhaustive and may vary depending upon the specific natural gas pipeline project under consideration which the Board may apply in a transparent manner.

- (g) assessment of the costs of major equipments and facilities in the natural gas pipeline, laying or building costs, project management consultancy and pre-operative expenditure.

5. Operating costs.

Operating costs⁴ required in the operation and maintenance of the natural gas pipeline over its economic life shall be computed, on an actual basis or based on a normative assessment by the Board, whichever is lower, over the following functional cost heads, namely:-

- (1) consumables;
- (2) utilities;
 - (a) power;
 - (b) fuel (including the cost of natural gas and the natural gas pipeline tariff not recovered on the volume of system-use natural gas consumed in the natural gas pipeline);
 - (c) water;
- (3) salaries and wages;
- (4) repairs and maintenance;
- (5) insurance premia on assets (excluding the value of loss of profit) and on line-pack volumes;
- (6) administrative overheads [to the extent not classifiable under sub-clause (1) to sub-clause (5)], related and also commensurate to the level of operations in the natural gas pipelines;

¹²[***]

¹³[(8) Miscellaneous income realizable from a fixed asset included in the return on total capital employed or out of an expense considered as an operating cost, but not including income from imbalance management services under

⁴ Operating costs are those which are necessary for a proper upkeep and maintenance of a tangible asset created for operation of the natural gas pipeline 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 or debenture or bond or any debt, exchange variation on revenue account, but includes normal bank charges, bank guarantee charges, LC charges and bank charges for bid and performance bonds required as per the terms of authorization.

¹²The words “specified in sub clause (7) of clause 5” omitted by the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Amendment Regulations, 2016 (w.e.f. 08.01.2016).

¹³ Subs. by Reg.2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Amendment Regulations, 2014, for ‘sub-para (8) of para 5 of the Schedule A’ (w.e.f. 17.02.2014).

relevant regulations of the Board, interest income, profit or loss on sale or transfer of any fixed or other asset, shall be netted from the operating cost.]

6. Volumes to be considered in determination of the unit natural gas pipeline tariff.

¹⁴[(1) The volumes of natural gas to be considered as divisor in the determination of the unit natural gas pipeline tariff over the economic life of the project shall be computed on a normative or actual basis, whichever is higher. Volume on normative basis shall be calculated as indicated below:-

- (a) The divisor for each of the first five years of operations of the natural gas pipeline shall be arrived by multiplying the applicable percentage utilization for the year, as per the basis indicated below, with seventy five per cent of the capacity of natural gas pipeline as declared under the Petroleum and Natural Gas Regulatory Board (Determining Capacity of Petroleum, Petroleum Products and Natural Gas Pipeline) Regulations, 2010:-

Year of natural gas pipeline operations	Percentage utilization
First	60%
Second	70%
Third	80%
Fourth	90%
Fifth	100%

- (b) The divisor for the sixth and the subsequent years of operation of the natural gas pipeline shall be equal to the firmed up contract capacity and booked common carrier capacity or seventy five per cent. of the capacity of natural gas pipeline as declared under the Petroleum and Natural Gas Regulatory Board (Determining Capacity of Petroleum, Petroleum Products and Natural Gas Pipeline) Regulations, 2010, whichever is higher.

- (c) In case, capacity has not been declared as per capacity determination regulations, capacity as mentioned in the authorization or acceptance letter issued by the Board shall be used for tariff determination and subsequently when the capacity as per Petroleum and Natural Gas Regulatory Board (Determining Capacity of Petroleum, Petroleum Products and Natural Gas Pipeline) Regulations, 2010 is available, this capacity shall be replaced with the capacity declared as per capacity determination regulations at the time of next tariff review.

¹⁴Subs. by Cl. (ii) of sub reg. (a) of reg.2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Amendment Regulations, 2016 (w.e.f. 08.01.2016)

- (d) In case of addition of any new source to a natural gas pipeline that comes during 01.04.2015 to 31.03.2020, any increase in the design capacity of the pipeline because of this new source shall not be considered in the tariff determination for a period from 01.04.2015 to 31.03.2020.]
- (2) The volume of natural gas determined under sub-clause (1) shall be converted into its energy equivalence in MMBTU terms for the purpose of-
 - (a) determination of the provisional unit natural gas pipeline tariff by considering the weighted average of heat value of different natural gases which are likely to be transported by the entity during this period;
 - (b) determination of the final initial unit natural gas pipeline tariff by considering the weighted average heat value of the natural gas delivered to customers during the initial unit natural gas pipeline tariff period;
 - (c) first tariff review by considering the weighted average heat value of natural gas delivered to the customers between the period from the end of the initial unit natural gas pipeline tariff period and the due date of the first tariff review;
 - (d) any subsequent tariff review by considering the weighted average heat value of the natural gas delivered to the customers during the period between that tariff review and the immediate previous tariff review.

7. Economic life.

The economic life of the natural gas pipeline shall be as specified in the Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Lay, Build, Operate or Expand Natural Gas Pipeline) Regulations, 2008.

8. Procedure for apportioning of unit natural gas pipeline tariff over the tariff zones.

- (1) The entity shall submit for the Board's approval, the calculations in respect of apportioning of the unit natural gas pipeline tariff over all the tariff zones during the economic life of the project in the form specified under regulation 5, by following the methodology as specified under sub-regulations (a), (b) and (c) of regulation 7 of the Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Laying, Building, Operating or Expanding Natural Gas Pipelines) Regulations, 2008 except that:-
 - (a) there shall be no requirement of bidding while following such methodology;
 - (b) no weightage shall apply to such apportionment of the unit natural gas pipeline tariff over different tariff zones; and
 - (c) the entity shall use its own numbers in determining such apportionment.

(2) No adjustment shall be made by the entity with the customers for any over-achievement or under-achievement in the recovery of the natural gas pipeline tariff by the entity due to the volumes actually transported in different tariff zones being different than the volumes considered by the entity for apportioning the unit natural gas pipeline tariff for each of the tariff for zones during-

(a) the period of initial unit natural gas pipeline tariff;

(b) the first five and consecutive years after the end of the initial unit natural gas pipeline tariff; and

(c) the period between any two consecutive tariff reviews.

9. Determination of initial unit natural gas pipeline tariff and review of unit natural gas pipeline tariff.

(1) The unit natural gas pipeline tariff shall be determined for the natural gas pipeline over its economic life and levelized during-

(a) the period applicable for the initial unit natural gas pipeline tariff;

(b) the period of five consecutive years after the end of the initial unit natural gas pipeline tariff; and

(c) the period between any two consecutive tariff reviews.

(2) The initial unit natural gas pipeline tariff including its apportioning over all tariff zones shall be determined based on provisional computations.

(3) The final computations in respect of the initial unit natural gas pipeline tariff shall be made considering the adjustments required for –

(a) the actual capital and operating costs or that normatively assessed by the Board, whichever is lower as specified under clause 4 and clause 5;

(b) volume consideration as per item (a) of sub-clause (1) of clause 6; and

(c) volume conversion into its energy equivalence as per item (b) of sub-clause (2) of clause 6.

¹⁵[(4) The adjustment on account of variation in the provisional initial unit natural gas pipeline tariff, final initial unit natural gas pipeline tariff and tariff determined under tariff review shall be made in the DCF calculations and the derived tariff shall be charged from the customers on prospective basis till next review, that is, the tariff shall be applicable from the first day of the month, following the month, in which the tariff order (zonal tariff in case of applicability of zonal tariff) is issued by the Board.]

¹⁵Subs. by Cl.(b) of Reg. 3, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Amendment Regulations, 2019, for ‘Sub cl. (4) of Cl. 9 in Schedule A’ (w.e.f. 27.05.2019).

- (5) The final unit natural gas pipeline tariff as specified under sub-clause (3) shall apply for the period upto the first tariff review until the time the same is revised by the Board;
- (6) The entity shall submit for Board's approval the data for determination of the unit natural gas pipeline tariff after the notification of these regulations in the form and time frame specified under regulation 5 alongwith the provisional computations of the initial unit natural gas pipeline tariff including the apportioning of the same over all tariff zones;

Provided that the final computations of the initial unit natural gas pipeline tariff including apportioning of the same over all tariff zones shall be submitted three months before the last date of the period applicable for the initial unit natural gas pipeline tariff.

- (7) The entity shall submit computation of the unit natural gas pipeline tariff including apportioning of the same over all tariff zones in the form specified under regulation 5 at the time of each tariff review within three months of the

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- (a) end of the last year of the five consecutive years after the initial unit natural gas pipeline tariff; or
- (b) end of the preceding tariff review period:

Provided that the computation shall consider the actual cost, financial and operational data or that normatively assessed by the Board, whichever is lesser as per clauses 4 and 5 in respect of the period specified under sub-clause (a) or (b) as the case may be.

- (8) Adjustments on account of the following variations during the five consecutive years after the initial unit natural gas pipeline tariff or any tariff review shall be made in the DCF calculations on a prospective basis by considering the remaining period of the economic life of the project, namely:-

- (a) the variations on account of the actual performance with respect to the capital and operating costs which when compared with the normative parameters identified under clauses 4 and 5;
- (b) the variations in respect of the volumes under Explanation to sub-item (ii) of sub-clause (1) of clause 6 and;
- (c) the variations in the energy equivalence under sub-clause (2) to clause 6.

- (9) The Board may, either on its own or on the entity's request, carry out a review of the unit natural gas pipeline tariff any time between two tariff reviews, as the case may be, considering-

- (i) applicable nominal rate of income tax used for grossing-up the rate of return on capital employed;

- (ii) sudden change in any parameter used in the determination of the unit natural gas pipeline tariff.
- (10) The provisional and final initial unit natural gas pipeline tariff, unit natural gas pipeline tariff for the period of five consecutive financial years after the initial unit natural gas pipeline tariff and the unit natural gas pipeline tariff fixed after any tariff review thereafter shall continue to apply till the time the same is revised by the Board.

¹⁶[10. Adjustment of volume variation in Tariff computation after final computations of initial unit natural gas pipeline tariff.

- (1) Adjustment shall be carried out in the final unit natural gas pipeline tariff determined under sub-clause (5) of clause 9 on a year-to-year basis by the entity with the customers considering actual volumes in any of the first five years of natural gas pipeline operation when-
 - (a) the actual volumes are higher than the normative volume considered as divisors for determination of final unit natural gas pipeline tariff on the basis specified in item (a) of sub-clause (1) of clause 6; or
 - (b) the actual volumes are higher than the normative volume considered as divisors for determination of the final unit natural gas pipeline tariff on the basis specified in item (a) of sub-clause (1) of clause 6 but are lower than that considered for determination of final unit natural gas pipeline tariff.
- (2) When the actual volumes are lower than the normative volumes in any of the first five years of natural gas pipeline operations, a set-off of the impact of such lower volumes shall be permitted. Such set-off shall be allowed only to the extent of impact of higher actual volumes passed on in any of the first five years and the balance set-off, if any, shall be carried over to subsequent years, but not beyond the first five years of natural gas pipeline operation, to be allowed for adjustment only in case there are higher actual volumes.
- (3) An audited statement showing actual volume shall be submitted by the entity to Board after the conclusion of each year of the first five years of natural gas pipeline operations to enable the Board to advise the necessary adjustments.
- (4) A pro-rata adjustment in apportionment of the unit natural gas pipeline tariff over all the tariff zone determined by Board under clause 8 of Schedule A to the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Regulations, 2008 shall also be made with customers to the extent of adjustment in the final unit natural gas pipeline tariff determined by the Board under this clause.
- (5) The tariff so adjusted shall also be applicable for the subsequent period till the same is modified, adjusted or reviewed.]

¹⁶ Ins. by Reg. 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas pipeline Tariff) Amendment Regulations, 2010, (w.e.f. 20.12.2010).

Attachment 1

[see regulation 5]

Project capital cost summary (Capex outflows)

Sr. No.	Description	INR	FE	
		Indian Rupees	Foreign Exchange	Total (*)
A	Plant and machinery			
1	Receiving terminal [see attachment 1 (a)]			
2	Compressor station [see attachment 1 (b)]			
3	Intermediate terminal [see attachment 1 (c)]			
4	Delivery terminal [see attachment 1 (d)]			
5	Pipeline [see attachment 1 (e)]			
	Subtotal (A)			
B	Engineering costs			
1	Detailed engineering, procurement, construction, supervision and project management			
2	Service Tax on above			
	Subtotal (B)			
C	Site related costs			
1	Land			
2	Any other (details to be given)			
	Subtotal (C)			
D	Owner's cost, start-up expenses			
1	Start-up and			

	commissioning expenses			
2	Owner's management expenses			
	Subtotal (D)			
E	Other Costs			
1	Contingencies and escalation			
2	Preliminary and pre-operative expenses			
3	Interest during construction period and financing charges			
4	Margin money for working capital			
	Subtotal (E)			
	Total (A+B+C+D+E)			
	(* INR + FE converted to INR.			
	Note: Detailed assumption / calculations to be given for item E.			

Attachment 1 (a)
[see regulation 5]

Capital cost of receiving terminal

Sr. No.	Description	INR	FE	Total (*)	Technical specifications
		Indian Rupees	Foreign Exchange		
A	Major Items				
1	Scrapper traps and pig signaller				Rated capacity as per supplier
2	Metering system				
3	Cartridge filters				
4	Fire protection system				
5	Power supply arrangement				
6	Compressors				Rated capacity as per supplier
7	Any other item (details to be given)				
	Subtotal				
B	Bulk Materials				
1	Piping				
2	Electrical				
3	Instrumentation				
4	Any other item (details to be given)				
	Subtotal				
C	Spares (details to be given)				
D	Erection				
1	Mechanical				
2	Electrical				
3	Instrumentation				
4	Civil works				
5	Land				
6	Any other item (details to be given)				
	Subtotal				
E	Taxes and duties				
1	Ocean freight				
2	Customs duty				
3	Port handling				

4	Inland freight				
5	Excise & CST				
6	Works contract tax				
7	Insurance				
8	Any other applicable tax and duty (give details)				
	Subtotal				
	Total (A to E)				

(* INR + FE converted to INR.

Attachment 1 (b)

[see regulation 5]

Capital cost of compressors

Sr. No.	Description	INR	FE	Total (*)	Technical specifications
		Indian Rupees	Foreign Exchange		
A	Major Items				
1	Compressors				Rated Capacity as per Supplier
2	Scrapper traps and pig signaler				
3	Metering system				
4	Cartridge filters				
5	Fire protection system				
6	Power supply arrangement				
7	Any other item (details to be given)				
	Subtotal				
B	Bulk materials				
1	Piping				
2	Electrical				
3	Instrumentation				
4	Any other item (details to be given)				
	Subtotal				
C	Spares (details to be given)				
D	Erection				
1	Mechanical				
2	Electrical				
3	Instrumentation				
4	Civil Works				
5	Land				
6	Any other item (details to be given)				
	Subtotal				
E	Taxes and duties				
1	Ocean freight				
2	Customs duty				
3	Port handling				

4	Inland freight				
5	Excise & CST				
6	Works contract tax				
7	Insurance				
8	Any other applicable tax and duty (give details)				
	Subtotal				
	Total (A to E)				

(* INR + FE converted to INR)

Attachment 1 (c)
[see regulation 5]

Capital cost of intermediate terminal

Sr. No.	Description	INR	FE	Total (*)	Technical specifications
		Indian Rupees	Foreign Exchange		
A	Major Items				
1	Scrapper traps and pig signaler				Rated Capacity as per Supplier
2	Metering system				
3	Cartridge filters				
4	Fire protection system				
5	Power supply arrangement				
7	Any other item (details to be given)				
	Subtotal				
B	Bulk materials				
1	Piping				
2	Electrical				
3	Instrumentation				
4	Any other item (details to be given)				
	Subtotal				
C	Spares (details to be given)				
D	Erection				
1	Mechanical				
2	Electrical				
3	Instrumentation				
4	Civil Works				
5	Land				
6	Any other item (details to be given)				
	Subtotal				
E	Taxes and duties				
1	Ocean freight				
2	Customs duty				
3	Port handling				
4	Inland freight				
5	Excise & CST				

6	Works contract tax				
7	Insurance				
8	Any other applicable fax and duty (give details)				
	Subtotal				
	Total (A to E)				

(*) INR + FE converted to INR

Attachment 1 (d)
[see regulation 5]

Capital cost of delivery terminal

Sr. No.	Description	INR	FE	Total (*)	Technical specifications
		Indian Rupees	Foreign Exchange		
A	Major Items				
1	Scrapper traps and pig signaler				Rated Capacity as per supplier
2	Metering system				
3	Cartridge filters				
4	Fire protection system				
5	Power supply arrangement				
6	Any other item (details to be given)				
	Subtotal				
B	Bulk materials				
1	Piping				
2	Electrical				
3	Instrumentation				
4	Any other item (details to be given)				
	Subtotal				
C	Spares (details to be given)				
D	Erection				
1	Mechanical				
2	Electrical				
3	Instrumentation				
4	Civil Works				
5	Land				
6	Any other item (details to be given)				
	Subtotal				
E	Taxes and duties				
1	Ocean freight				
2	Customs duty				
3	Port handling				
4	Inland freight				
5	Excise & CST				
6	Works contract tax				

7	Insurance				
8	Any other applicable fax and duty (give details)				
	Subtotal				
	Total (A to E)				

(* INR + FE converted to INR

Attachment 1 (e)
[see regulation 5]

Capital cost of pipelines

Sr. No.	Description	INR	FE	Total (*)	Technical specifications
		Indian Rupees	Foreign Exchange		
A	Major Items				
1	Survey and soil investigation				
2	Land, ROU and crop compensation				
3	Line pipes				Outer diameter and wall thickness
4	Line materials				
5	Coating and pipe transportation				
6	Pipeline Laying				
7	Cathodic protection				
8	OFC, telecom and telesupervisory system				
9	SCADA & APPC system				
11	Power source				
12	Any other item (details to be given)				
	Subtotal				
B	Minor items				
1	Ocean freight				
2	Customs duty				
3	Port handling				
4	Inland freight				
5	Excise & CST				
6	Works contract tax				
7	Insurance				
8	Any other cost (give details)				
	Subtotal				
	Total (A +B)				

(* INR + FE converted to INR)

Attachment 1 (f)

[see regulation 5]

Profit and Loss Account (\$)

Rs.

Sr. No.	Description	Year 1	Year 2	Year 3	Year 4	----	Year 25
1	Total inflows						
a	Revenue from natural gas pipeline tariff						
2	Total operating cost outflows						
a	Consumables and chemicals						
b	Utilities – (Power fuel and water)						
c	Salaries						
d	Repair and maintenance						
e	Gen. administrative expenses (including bank charges on bid bond and performance bond as per grant of authorization)						
f	Any other expenses (to be detailed)						
g	Insurance (including on line-pack volumes)						
3	Profit before depreciation interest and tax (PBDIT) (1 - 2)						
4	Interest on working capital borrowings to the extent utilized in working capital requirement for above expenses (with rates)						
5	Interest on term loan (with rates)						
6	Profit before depreciation and tax (PBDT) (3-4-5)						
7	Depreciation on SLM basis and miscellaneous expenses written off (give details of each)						
8	Profit before tax (PBT) (6-7)						
9	Tax provision (provide as per income tax rules in force)						
10	Profit after tax (PAT) (8-9)						
	Cash from operation (CFO) (10+7) – To be transferred to cash flow sheet						

(\$) Actual or estimates, wherever applicable

(*) Excluding all direct, indirect and allocated common cost beyond transportation of natural gas pipeline. Financial costs and selling expenses to be excluded.

Note :

1. The natural gas pipeline tariff shall be based on the actual volumes of natural gas transported in natural gas pipeline as determined by DCF methodology adopted by

considering a PIRR, at which level the net inflows equal the net outflows over the economic life of the project.

2. For expansion or extension of natural gas pipeline – data in the above format as applicable for project post expansion or extension.
3. Non-operating income (such as, Interest on interest-free refundable security deposit from PNG domestic customers) not to be considered as project inflows.
4. Modvat benefit, if available is to be reflected separately alongwith the calculations
5. Copy of Audited Profit and Loss Account to be attached wherever applicable.

Attachment 1 (g)
[see regulation 5]

Cash flow statement

Rs.

Sr. No.	Year	Construction period			Economic Life			
		Year- 3	Year- 2	Year- 1	Year- 1	Year- 2	Year- 3	----- Year 25
1	Sources of funds							
a	Equity or Preference Equity (*)							
b	Term Loans and short term loans							
c	Cash from operations							
d	Bank borrowings for working capital							
e	Others (please specify)							
2	Uses of funds							
a	Capital expenditure							
b	Normal/additional capital expenditure							
c	Increase or (decrease) in net working capital							
d	Repayment of loans							
e	Dividends to equity holders							
f	Tax on distributable profits							
g	Others (please specify)							
3	Cash surplus or (deficit)							
a	Opening cash balance							
B	Closing cash balance							

(*) Redemption details to be given.

Attachment 1 (h)
[see regulation 5]

Balance Sheet (\$)

Rs.

Year	Construction period			Economic Life				
	Year 3	Year 2	Year 1	Year 1	Year 2	Year 3	Year 4	-----
Assets								
Gross fixed assets								
Less: Accumulated depreciation (*)								
Net Fixed assets								
Net current assets								
Cash and bank balance								
Investments								
Miscellaneous fixed assets								
Deferred revenue expenditure								
Others (please specify)								
Liabilities								
New worth								
Equity capital								
Preference share capital (**)								
Reserves								
Debt								
Rupee term loans								
FC term loans								
Bank borrowings for working capital								
Others (please specify)								

(\$) Actuals or estimates, wherever applicable

(*) Asset head-wise depreciation calculations to be provided

(**) To the extent non-redeemable. Redeemable preference capital to be shown under debt.

Note :

- a) Copy of audited Balance Sheet to be attached, wherever applicable

Attachment 1 (i)

[see regulation 5 and clause 8 and clause 9 of Schedule A]

Part 1: Computations for natural gas pipeline tariff based on project IRR

Year	Construction period			Economic Life										
	Year(-3)	Year(-2)	Year(-1)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 25	
a) Capital and operating cost outflows (including margin money)														
b) Inflows Profit before depreciation, interest and income tax as per item 3 of estimated profit and loss account in Attachment 1(f)														
Net Inflows/(outflows)														
Cumulative Inflows/(outflows)														
Levelized unit natural gas pipeline tariff calculated based on the reasonable rate of return as specified in clause 2 and 3 of Schedule A for:														
A) the period of initial unit natural gas pipeline tariff (T1)				T1 : For Year 1										
B) the period of five consecutive years after the initial unit natural gas pipeline tariff (T2)					T2: For Year 2 to Year 6									
C) the period of each of the tariff period (T3 and onwards) calculated based on reasonable rate of return as project's internal rate of return as specified in clause 2 of schedule A.								T3 : For Year 7 to Year						...and so on...

			1 1					
--	--	--	--------	--	--	--	--	--

Notes:

1. The calculations for natural gas pipeline tariff alongwith the data are required to be submitted by the entity to the Board each time the same is due for fixation or review.
2. The adjustments required in the DCF calculations for the variations in capital cost, operating cost and volumes as per the basis specified under 9 of Schedule A shall be clearly specified at the time of submission of such computations to the Board.
3. Capital outflows includes outflows on account of capital work-in-progress.

Attachment 1(i) (Contd..)

Part II: Apportionment of unit natural gas pipeline tariff over natural gas pipeline tariff Zones.

[See regulation 5 and clause 8 and clause 9 of Schedule A]

(in rs./MMBTU)

	Period applicable for initial unit natural gas pipeline tariff/Review period	Unit natural gas pipeline tariff	Tariff zone 1	Tariff zone 2	Tariff zone 3	Tariff zone 4	Tariff zone 5till last tariff zone..
				X%=[indicate one number towards % age increase over Tariff zone 1]	Y%=[indicate % age increase(lower than 100%) over preceding tariff zone]			
			TZ1=[one number to be indicated for the period applicable to initial unit natural gas pipeline tariff]	Incremental increase over TZ1= [TZ1xX%/100]	Incremental increase over TZ1 = [Y% x X% x TZ1]	Incremental increase over TZ1= [Y% x Y% x X% x TZ1]	Incremental increase over T1= [Y% x Y% x Y% x X% x TZ1]	...and so on...
Unit natural gas pipeline tariff as per Part	For the period applicable to initial unit natural gas pipeline tariff			TZ2= TZ1+ Above incremental increase over TZ1	TZ3= TZ2+ Above incremental increase over TZ1	TZ4= TZ3+ Above incremental increase over TZ1	TZ5= TZ4+ Above incremental increase over TZ1	...and so on...
Unit natural gas pipeline tariff as per Part 1	Second (*)							
Unit natural gas pipeline tariff as per Part 1	Third (*)							
	:							
	:							
Unit natural gas pipeline tariff as per Part 1	Last(*)							

(*) The process shall be followed on the same basis as described for the initial natural gas pipeline tariff period.

(in MMBTU)

	Period	Tariff zone 1	Tariff zone 2	Tariff zone 3	Tariff zone 4	Tariff zone 5	Last tariff zone	Total
Volumes considered in each tariff zone	Initial period							
Volumes considered in each tariff zone	First Review Period							
Volumes considered in each tariff zone	Second Review Period							
	:							

	:							
Volumes considered in each tariff zone	Last Review Period							

Note:

1. The Calculations for apportionment of natural gas pipeline tariff over natural gas pipeline tariff zones are required to be submitted for every tariff review period.
2. The basis followed in bifurcating the unit natural gas pipeline tariff over each of the natural gas pipeline tariff zone to be specified.
3. The basis for considering the volumes in each natural gas pipeline tariff zone to be provided (including copies of contracts to be enclosed).
4. Volumes in MMSCM to be provided in respect of above and the basis for conversion of volume of natural gas into its energy equivalence in MMBTU to be indicated.

Attachment 1 (j)
[see regulation 5]

Assumptions

1. Exchange rate used for determining the capital costs in Indian currency to be indicated.
2. Format for providing annual operating cost by the entity.

	Description of cost elements	Rs.
A.	Variable cost	
1.	Consumables	
	Fuel (quantity and rates)	
2.	Utilities (quantity and rates)	
a)	Power (*)	
b)	Water	
c)	Any other expenses(to be specified)	
	Sub Total	
B.	Fixed and semi variable cost	
1	Salary and wages	
2	General administration	
3	Repairs and maintenance	
4	Any other expenses (to be specified) (£)	
	Sub Total	
C.	Insurance (%)	
	Total (A+B+C)	

(*) Break-up of purchased power (over fixed charge & variable charge) & and own generation to be provided.

(\$) Break –up over routine & turn around as well as function-wise over electrical, civil, mechanical, etc. to be provided.

(£) Basis of direct & indirect administrative expenses (along with basis of allocation to be provided).

(%) Break-up of premium on loss of profit policy, facilities & line-fill quantity to be provided.

Note:

- a. For each items of operating cost, detailed assumptions and working to be attached.
- b. For common overheads, complete basis of apportionment and allocation of costs to be provided.
3. Project implementation schedule to be given along with break up of expenditure for each year.

4. Loan schedule to be provided for each type of loan interest rates, repayments etc.
5. Depreciation schedule as per the Companies Act and Income Tax Act should be provided.
6. Section-wise capacity of the natural gas pipeline along with length of each section.
7. Pipeline design capacity and rated capacity of compressors to be provided.
8. Capacity utilization proposed and the basis to be provided.
9. Implementation period of project in phases to be provided.
10. Economic life of the project.
11. Applicable income tax rates and the exemption, if any available under the income Tax Act, 1961 to be provided.
12. Details of volumes of natural gas estimated to be transported in the natural gas pipeline over the economic life along with copies of the contracts for booking pipeline capacity to be provided in following format:

(MMSCMD)

	Year 1	Year 2	Year 3	Year 4	-----	Year 25
Own Requirement Firm						
Firm Contracted						
Extra capacity (*)						
Total						

(*) to be made available on common carrier open access and non-discriminatory basis.

13. Basis for conversation of natural gas volumes into its energy equivalence in MMBTU to be provided.
 1. All assumptions with reference to the estimates of capital or operating costs and any other assumption which has a material impact on the determination of the until natural gas pipeline tariff are to be separately indicated along with the financial impact of the same..

Attachment 2 to Schedule A

[see clause 4 (3) (a) of the Schedule]

Treatment of a fixed asset in the determination of return on total capital employed for natural gas pipeline tariff.

The basis of considering fixed assets in a natural gas pipeline in the determination of the return on total capital employed shall be as per the following norms:-

- (1) A fixed asset in a natural gas pipeline is a tangible asset having a useful operating life of more than one year and is integral to the generation of revenues through natural gas pipeline tariff. Investment in securities, goodwill, current assets, accumulated loss not written –off, work-in-progress, etc. are not fixed assets.
- (2) Any change in the historical cost of the fixed asset due to revaluation or capitalization of losses shall not be considered. However, cost incurred in improvements, modification, expansion or replacement of any fixed asset shall be considered in line with the treatment prescribed in the mandatory accounting standards of The Institute of Chartered Accountants of India.
- (3) Only the cost of land purchased and used for the putting the facilities essential to the natural gas pipeline shall be considered. Land purchased for any future use (such as for putting-up facilities required for expansion of capacity in natural gas pipeline for its extension) shall be considered only when used.

¹[***]

- (5) A fixed asset shall be considered for return on capital employed on a “rolling basis” till the end of the economic life of the natural gas pipeline project, provided it is not de-commissioned. On de-commissioning of the fixed asset, the value realized on its sale or scrapping should be considered as a project inflow in the DCF calculations. In the terminal year of the economic life, the residual value of the fixed asset, which is the difference between the original cost less the amount of accumulated depreciation shall be treated as a project inflow in the DCF calculations for natural gas pipeline tariff.
- (6) Treatment of line-pack volume in natural gas pipeline shall be as per the procedure indicated below:-
 - (a) Assessment of the volume of natural gas required as line pack in the natural gas pipeline as and when commissioned shall as be specified in the relevant regulations for the technical standards and specifications, including safety standards.

¹The words and letter “specified in cl. (4) of Attachment 2 to Schedule A” omitted by the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Amendment Regulations, 2016 (w.e.f. 08.01.2016).

- (b) The line-pack value of natural gas in natural gas pipeline and included in the total capital employed for determination of the unit natural gas pipeline tariff shall be considered as a non-depreciating fixed asset and the value to remain fixed over the economic life of the project.
- (c) The value of the line-pack volume shall be derived by multiplying the volume of line-pack by the average cost of natural gas at the point on injection of natural gas into the natural gas pipeline at the time of commissioning of the natural gas pipeline.
- (d) The salvage value of the line-pack volume at the end of the economic life of the project shall be equal to its value assessed at the time of its capitalization specified under sub-clause (b) and shall be considered as a project inflow.

¹⁷[Schedule B

[See regulations 5A]

Part A. Procedure for determination of Unified Tariff:

1. Unified tariff shall be determined by the Board in respect of the national gas grid system for each financial year before start of such financial year. Financial year for this purpose shall mean a period commencing on the first day of April and ending on thirty-first day of March immediately following it:

Provided that in the event the date on which the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment, Regulation, 2020 comes into force is between first April and thirtieth September, the first unified tariff shall be determined for the period commencing from the date on which the said regulations of 2020 comes into force and ending on the immediately following thirty-first March.

Provided further that in the event, the date on which the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment, Regulation, 2020 comes into force is between first October and thirty-first March, the first unified tariff shall be determined for the period commencing from the date on which the said regulations of 2020 comes into force and ending on the thirty-first March next from the one immediately following. That is to say that the first unified tariff could be determined for a period ranging between six months to eighteen months.

2. The Board may determine revised unified tariff during the financial year in case it deems it necessary to do so. Without prejudice to the generality of the foregoing provision, the Board may do so in case any new interconnected pipeline is added or an existing interconnected pipeline is removed, or approved tariff in respect of any interconnected pipeline is revised, or the quantity of gas estimated to be transported including ship or pay

¹⁷ Ins. by Cl. (d) of Reg. 2, the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2020.

quantity considered by the Board for determining the unified tariff undergoes a significant change.

3. Unified tariff shall be the weighted average of approved zonal tariffs in respect of all the pipelines forming part of the national gas grid system, considering the summation of quantity of gas transported and the quantity of ship or pay for which the pipeline entity is contractually entitled to recover approved tariff for each such pipeline. Provided that the quantities of gas transported and quantities of ship or pay through multiple pipelines shall be considered only once.
4. The Board shall determine the unified tariff applying-
 - (i) the zone-wise approved tariffs applicable on the date of determination; and
 - (ii) the quantity of gas estimated by it to be transported including ship or pay quantity by each pipeline forming part of the national gas grid system during the financial year for which such tariff is being determined and while making such estimates, the Board may consider the actual quantities during the twelve months preceding the date of determination, for which data may have been made available by the pipeline entities, the estimates of the quantities which may have been submitted by the pipeline entities and any other factor as it may deem fit. Such estimation by the Board shall be final and binding on all, including pipeline entities and shippers. The impact of the difference, if any, between the estimates considered by the Board and the actual quantities, shall be adjusted by the Board in the next determination of the unified tariff.
5. (1) Each pipeline entity shall—
 - (i) provide to the Board monthly zone-wise information of approved tariff, actual volume and quantity of gas transported and the quantity of ship or pay (expressed in terms of standard cubic meters (SCM) and MMBTU and the calorific value of such gas) for each such natural gas pipeline forming part of the national gas grid system. Such information shall be provided within a period of thirty days from the date of the commencement of Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2020, for immediately preceding twelve calendar months and month-wise estimates of the data-points described in this clause (other than estimates for the ship or pay quantities) for a period of next twelve calendar months, from the end of that month.

- (ii) continue to provide to the Board information described in clause (i) for each calendar month within fifteen days from the end of that month;
- (iii) provide to the Board estimates of the data-points described in clause (i) (other than estimates for the ship or pay quantities) for the next twelve months from the end of each calendar month, on a rolling basis, within fifteen days from the end of that month and the said information shall also include the data on unified zone-wise volumes and quantities of gas after the commencement of Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2020.
- (iv) provide every month reasons for variation (either positive or negative exceeding five per cent) between estimates and actuals of previous month; and
- (v) submit such other one-time or periodic regular information as may be required by the Board from time to time.

(2) The Board may issue such directions to the pipeline entities as it may deem fit regarding the manner in which information described in sub-paragraph (1) shall be submitted by them, including specifying or modifying formats, designating emails for submission of the information to the Board and specifying the portals on which the information is to be uploaded by the entities.

(3) In case of non-submission of any information by any entity within the specified time in this regard in this paragraph, the Board may consider the information as per its best judgement for the purpose of determination of unified tariff.

6. In terms of a formula, unified tariff shall be determined is provided in the following table, namely:-

UFT	=	$\{(((AT_1 * EEV_1) + (AT_2 * EEV_2) + (AT_3 * EEV_3) \dots + (AT_n * EEV_n)) + Adj) / ((EEV_1 + EEV_2 + EEV_3 \dots + EEV_n) - EDV_n)\}$
Where:		
UFT	=	unified tariff
AT ₁AT _n	=	approved tariff in respect of pipelines 1 to n applicable on the date of determination
EEV ₁ ...EEV _n	=	Quantity of natural gas estimated to be transported plus estimated ship or pay quantity for pipelines 1 to n during the financial year for which unified tariff is being determined
Adj		Impact of the difference, if any, between the estimated quantities considered by the Board and the actual quantities during the

		previous determination of the unified tariff
EDV_n	=	Quantities of natural gas estimated to be transported plus estimated ship or pay quantities through more than one pipelines during the financial year for which unified tariff is being determined
*	:	Denotes multiplication sign
/	:	Denotes division sign

Notes:

(i) the approved tariff for pipelines 1 to n, as referred above table, denotes zone-wise approved tariff for such pipelines. Similarly, the quantities of natural gas estimated to be transported including ship or pay quantity for pipeline 1 to n, as referred to above, denotes the estimated quantity of gas transported and the estimated quantity of ship or pay for such pipelines zone;

(ii) the formula provided in the above table shall determine the levelised unified tariff. Unified tariff for the two unified tariff zones shall be determined by the Board in a manner that the tariff for first tariff zone for unified tariff shall be 40% of the tariff for second tariff zone for unified tariff;

(iii) in these regulations the volume of gas refers to gas expressed in terms of SCM and the quantity of gas refers to gas expressed in terms of MMBTU on GCV basis.

7. The workings of levelised unified tariff and the zonal unified tariffs are shown with the help of a numerical example in Attachment 2 to this Schedule.

Part B. Settlement

Difference between revenue entitlement of natural gas pipeline entities and unified tariff invoiced by such entities shall be settled amongst such pipeline entities on a periodic basis for which settlement mechanism shall be developed by pipeline entities, facilitated by a representative from the Board within a period of two months from the date of the commencement of Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Second Amendment Regulations, 2020.

1. Revenue entitlement of natural gas pipelines that is to say the revenue entitlement for a natural gas pipeline entity in respect of a pipeline which forms part of national gas grid

system shall be equal to the sum of pipeline-wise transportation charges calculated based on zone-wise actual quantity of gas transported including ship or pay quantities of each such pipeline, multiplied by the respective zone-wise approved tariff for that pipeline.

2. Amount charged by invoicing entity that is to say the amount charged by the invoicing entity in respect of natural gas pipelines which are part of national gas grid system shall be equal to the sum of amounts invoiced to the shippers, for natural gas transported including ship or pay quantities in respective unified tariff zones of each such pipeline, multiplied by the respective approved unified zonal tariff for the period.
3. In terms of a formula, entity-wise revenue entitlement and revenue charged by way of unified tariff shall be worked out as provided in the table below, namely:-

i) RE	=	(EEV₁*AT₁ + EEV₂*AT₂ +.....+ EEV_n*AT_n)
Where:		
RE	=	Revenue entitlement of the entity as per the approved tariff
EEV ₁EEV _n	=	Actual quantities of natural gas transported and the quantity of ship or pay during the period by pipeline 1 to n
AT ₁AT _n	=	approved tariff in respect of pipelines 1 to n for the period
ii) RU	=	∑AV_n * UFT
Where:		
RU	=	Tariff charged by the invoicing entity for quantities of gas evacuated at unified exit point including ship or pay quantities for the unified contractual path
AV ₁AV _n	=	Actual quantities transported and the quantity of ship or pay during the period based on the unified exit points falling on the unified contractual path irrespective of number of natural gas pipelines falling on contractual path
UFT	=	unified tariff determined for the respective period
*	:	Denotes multiplication sign

Notes: The approved tariff for pipeline 1 to n, as referred to in above table, denotes the approved tariff considered for each tariff zone for pipeline 1 to n. Similarly, the actual quantities of natural gas transported and the quantity of ship or pay by pipeline 1 to n, as referred to in above table, denotes the actual gas transported and the quantity of ship or pay in each of such zones.

4. The workings of revenue entitlement and tariff invoiced are shown with the help of a numerical example in Attachment 2 to this Schedule.

5. Settlement of difference in the revenue entitlement and amount charged between various entities shall be carried out by such entities.
6. The Board may issue such further instructions and guidelines as it may deem fit including, without limiting, on periodical submission of information by the entities, working of revenue entitlement and amount charged and inter-se settlement between the entities.
7. In case any dispute regarding interpretation arises among the entities relating to these regulations, such entities may approach the Board and Board's decision in this regard shall be final.

Attachment 1 to Schedule B

{ see Attachment 2 to Schedule B)

Format 1

Format for submission of actual month-wise and pipeline-wise data

Name of the Pipeline: Month/ Year:..... Date

Zone	Approved Tariff (a)	Actual volume of gas transported (b)	Gross Calorific Value (c)	Actual quantity of gas transported (d)	Ship or pay volumes (e)	Total Actual Volumes (f)=(d) +(e)	Transportation tariff (g)=(f)*(a)
	(INR/MMBTU)	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)	(MMBTU)	INR
Zone-1							
Zone-2							
Zone-3							
Zone-n							

Zone	Unified Zonal Tariff (a)	Actual volume of gas transported (b)	Gross Calorific Value (c)	Actual quantity of gas transported (d)	Ship or pay volumes (e)	Total Actual Volumes (f)=(d) +(e)	Transportation tariff (g)=(f)*(a)
	(INR/MMBTU)	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)	(MMBTU)	INR
Zone 1							
Zone 2							

Format 2

Format for submission of Gross Volumes Received from Upstream Pipelines Based on the Contractual Path Tariff (*Refer Note)

Name of the Pipeline: Month/ Year:..... Date

From Up-stream Pipeline				
Up-stream Pipeline (a)	Actual volume of gas transported (SCM) (b)	Gross Calorific Value (Kcal/SCM) (c)	Actual quantity of gas transported (MMBTU) (d)	Quantity of ship or pay (MMBTU) (e)
Pipeline 1				
Pipeline 2				

Note: Respective entities owning Upstream and Downstream pipelines shall provide the information after reconciling natural gas volumes (in SCM) and quantities in MMBTU for respective pipelines with other pipeline entities, if any, within the specified timelines.

Format 2A

Format for submission of Gross Volumes delivered to Downstream Pipelines Based on the Contractual Path Tariff (Refer Note)

Name of the Pipeline: Month/ Year:..... Date

To Down-stream Pipeline				
Down-stream Pipeline (a)	Actual volume of gas transported (SCM) (b)	Gross Calorific Value (Kcal/SCM) (c)	Actual quantity of gas transported (MMBTU) (d)	Quantity of ship or pay (MMBTU) (e)
Pipeline 1				
Pipeline 2				

Note: Respective entities owning Upstream and Downstream pipelines shall provide the information after reconciling natural gas volumes (in SCM) and quantities in MMBTU for respective pipelines with other pipeline entities, if any, within the specified timelines.

Format 3

Actual gas volumes transported to end consumers from the Unified Entry Point to Unified Exit Point and the ship or pay volumes for the calculation of zonal unified tariff

Name of the Pipeline: Month/ Year:..... Date

Unified Tariff Zone*	Actual Volumes (MMSCM)	Gross Calorific Value (Kcal/SCM)	Actual Volumes (MMBTU)	Ship or pay Volumes (MMBTU)
Zone 1				
Zone 2				

*Refer definition of tariff zones i.e. “tariff zones” for Unified Tariff

Note: Above formats shall be used for providing estimated quantities also.

Attachment 2 to Schedule B

{See note 4 to paragraph 3 of Part B to Schedule B}

Example for Determination of Unified Tariff, Revenue Entitlement, Amount Charged and Settlement of differences within entities

Data to be submitted in format 1.

Table 1

		Approved Tariff (a)	Actual volume of gas transported (b)	Gross Calorific Value (c)	Actual quantity of gas transported (d)	Ship or pay volumes (e)	Total Actual Volumes (f)=(d)+(e)	Transportation tariff (g)=(f)*(a)
Pipelines	Zones	(INR/ MMBTU)	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)	(MMBTU)	INR
Pipeline A	Zone-1	10.00	30,000	9,500.00	1,130.95	200.00	1,330.95	13,309.52
	Zone-2	20.00	40,000	9,400.00	1,492.06		1,492.06	29,841.27
	Zone-3	30.00	50,000	9,300.00	1,845.24		1,845.24	55,357.14
	Zone-4	40.00	80,000	9,600.00	3,047.62	100.00	3,147.62	1,25,904.76
	Total		2,00,000		7,515.87	300.00	7,815.87	2,24,412.70
Pipeline B	Zone-1	10.00	45,000	9,300.00	1,660.71		1,660.71	16,607.14
	Zone-2	11.00	42,000	9,400.00	1,566.67		1,566.67	17,233.33
	Zone-3	12.00	38,000	9,500.00	1,432.54	150.00	1,582.54	18,990.48
	Total		1,25,000		4,659.92	150.00	4,809.92	52,830.95
Pipeline C	Zone-1	30.00	58,000	9,546.00	2,197.10		2,197.10	65,912.86
	Zone-2	40.00	34,000	9,645.00	1,301.31		1,301.31	52,052.38
	Zone-3	45.00	30,000	9,852.00	1,172.86	350.00	1,522.86	68,528.57
	Zone-4	50.00	68,000	9,900.00	2,671.43		2,671.43	1,33,571.43
	Zone-5	55.00	85,000	9,500.00	3,204.37	150.00	3,354.37	1,84,490.08
	Total		2,75,000		10,547.06	500.00	11,047.06	5,04,555.32

Data to be submitted in format 2

Data for Inter-pipeline volume flow

Table 2

Data by Pipeline A

From Up-stream P/L				
Up-stream P/L	Actual Volumes	Gross Calorific Value	Actual Volumes	Ship or pay Volumes
	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)
Pipeline C	1,825.00	9,500.00	68.80	0.50

To Down Stream P/L				
Down-stream P/L	Actual Volumes	Gross Calorific Value	Actual Volumes	Ship or pay Volumes
	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)
Pipeline B	549.00	9,500.00	20.70	

Data by Pipeline B

From Up-stream P/L				
Up-stream P/L	Actual Volumes	Gross Calorific Value	Actual Volumes	Ship or pay Volumes
	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)
Pipeline A	549.00	9,500.00	20.70	
Pipeline C	4,392.00	9,500.00	165.57	

To Down Stream P/L				
Down-stream P/L	Actual Volumes	Gross Calorific Value	Actual Volumes	Ship or pay Volumes
	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)
NIL				

Data by Pipeline C

From Up-stream P/L				
Up-stream P/L	Actual Volumes	Gross Calorific Value	Actual Volumes	Ship or pay Volumes
	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)
Nil				

To Down Stream P/L				
Down-stream P/L	Actual Volumes	Gross Calorific Value	Actual Volumes	Ship or pay Volumes
	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)
Pipeline A	1,825.00	9,500.00	68.80	0.50
Pipeline B	4,392.00	9,500.00	165.57	

Summary of the duplicate volume flows

Pipeline From	Pipeline to	Actual Volumes (SCM)	Gross Calorific Value (Kcal/SCM)	Actual Volumes (MMBTU)	Ship or pay Volumes (MMBTU)
Pipeline C	Pipeline A	1,825.00	9,500.00	68.80	0.50
Pipeline A	Pipeline B	549.00	9,500.00	20.70	0.00
Pipeline C	Pipeline B	4,392.00	9,500.00	165.57	0.00
Total		6,766.00		255.07	0.50

Data to be submitted in format 3

Data for Unified Zonal volume flows to be provided by Entities:

Data provided by Pipeline A

Table 3

Unified Tariff Zone*	Actual Volumes (SCM)	Gross Calorific Value (Kcal/SCM)	Actual Volumes (MMBTU)	Ship or pay Volumes (MMBTU)
Zone 1	30,000.00	9,500.00	1,130.95	200.00
Zone 2	1,67,626.00	9,464.21	6,295.42	99.50

Data provided by Pipeline B

Unified Tariff Zone*	Actual Volumes (SCM)	Gross Calorific Value (Kcal/SCM)	Actual Volumes (MMBTU)	Ship or pay Volumes (MMBTU)
Zone 1	45,000.00	9,300.00	1,660.71	-
Zone 2	80,000.00	9,447.50	2,999.21	150.00

Data provided by Pipeline C

Unified Tariff Zone*	Actual Volumes (SCM)	Gross Calorific Value (Kcal/SCM)	Actual Volumes (MMBTU)	Ship or pay Volumes (MMBTU)
Zone 1	53,608.00	9,549.77	2,031.52	
Zone 2	2,17,000.00	9,696.73	8,349.96	500.00

Consolidated Volumes

Unified Tariff Zone*	Actual Volumes (SCM)	Gross Calorific Value (Kcal/SCM)	Actual Volumes (MMBTU)	Ship or pay Volumes (MMBTU)
Zone 1	1,28,608.00	9,450.77	4,823.19	200.00
Zone 2	4,64,626.00	9,569.93	17,644.59	749.50

Table 4

Calculation of Unified Tariff

Pipelines	Revenue Entitlement	Quantity for Revenue Entitlement	Duplicate Volumes	UFT
	INR	in MMBTU	in MMBTU	Rs./ MMBTU
	(a)	(b)	(c)	a/(b-c)
Pipeline A	2,24,412.70	7,815.87	255.57	33.39
Pipeline B	5,04,555.32	11,047.06		
Pipeline C	52,830.95	4,809.92		
Total Revenue	7,81,798.97	23,672.85		

Calculation of amount charged by entities way of charging unified tariff:

Table 5

Amount charged by Pipeline A

Zone	Unified Zonal Tariff	Actual volume of gas transported	Gross Calorific Value	Actual quantity of gas transported	Ship or pay volumes	Total Actual Volumes	Transportation tariff
	(a)	(b)	(c)	(d)	(e)	(f)=(d) +(e)	(g)=(f)*(a)
	(INR/MMBTU)	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)	(MMBTU)	INR
Zone 1	X	30,000.00	3,769.84	1,130.95	200.00	1,330.95	
Zone 2	Y	1,67,626.00	3,755.64	6,295.42	99.50	6,394.92	
Total				7,426.38	299.50	7,725.88	

Amount charged by Pipeline B

Zone	Unified Zonal Tariff	Actual volume of gas transported	Gross Calorific Value	Actual quantity of gas transported	Ship or pay volumes	Total Actual Volumes	Transportation tariff
	(a)	(b)	(c)	(d)	(e)	(f)=(d) +(e)	(g)=(f)*(a)
	(INR/MMBTU)	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)	(MMBTU)	INR
Zone 1	X	45,000.00	3,690.48	1,660.71	-	1,660.71	
Zone 2	Y	80,000.00	3,749.01	2,999.21	150.00	3,149.21	
Total				4,659.92	150.00	4,809.92	

Amount charged by Pipeline C

Zone	Unified Zonal Tariff	Actual volume of gas transported	Gross Calorific Value	Actual quantity of gas transported	Ship or pay volumes	Total Actual Volumes	Transportation tariff
	(a)	(b)	(c)	(d)	(e)	(f)=(d) +(e)	(g)=(f)*(a)
	(INR/MMBTU)	(SCM)	(Kcal/SCM)	(MMBTU)	(MMBTU)	(MMBTU)	INR
Zone 1	X	53,608.00	3,789.59	2,031.52	-	2,031.52	
Zone 2	Y	2,17,000.00	3,847.91	8,349.96	500.00	8,849.96	
Total				10,381.48	500.00	10,881.48	

Statement of settlement of differences among entities:

Table 6

Pipelines	Revenue Entitlement	Amount Charged (from table 5)	Amount to be Paid/ (Received)
	(a)	(b)	(b-a)
Pipeline A	2,24,412.70		
Pipeline B	52,830.95		
Pipeline C	5,04,555.32		
Total	7,81,798.97	7,81,798.97	0.00

Schedule C
{See regulation 2(1) (ec)}

List of natural gas pipelines which are part of national gas grid system for calculation of Unified Tariff

S.No.	Entity Authorized	Pipeline Name
1	GAIL (India) Limited	Hazira-Vijaipur-Jagdishpur-GREP-Dahej-Vijaipur, Dahej-Uran-Dabhol-Panvel Natural Gas Pipeline, Dahej-Vijaipur (DVPL)-Vijaipur-Dadri (GREP) capacity augmentation, Jagdishpur-Haldia-Bokaro-Dhamra Natural Gas Pipeline network, Dadri-Bawana-Nangal Natural Gas Pipeline, Chainsa-Jhajjar-Hissar Natural Gas Pipeline, Dabhol-Bangalore Natural Gas Pipeline.
2	Indian Oil Corporation Limited	Dadri-Panipat.
3	Pipeline Infrastructure Limited	East West Natural Gas Pipeline.
4	Gujarat State Petronet Limited	GSPL's High Pressure Gujarat Gas Grid.
5	Reliance Gas Pipelines Limited	Shahdol-Phulpur.
6	GSPL India Gasnet Limited	Mehsana – Bhatinda, Bhatinda - Jammu – Srinagar.
7	GSPL India Transco Limited	Mallavaram-Bhopal-Bhilwara-Vijaipur.

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[F. No. S-Admn/II/8/2008-Vol.-1]
RATAN P. WATAL, Secy.

Foot Note: Principal regulation were published in the Gazette of India (Extraordinary) under No. G.S.R.807(E), dated the 20th November, 2008 and amended *vide* G.S.R. 986(E), dated 20th December, 2010 and, F. No. PNGRB/M(C)/11/Final Tariff Filing, dated 30th May, 2012 and, PS/Secy./M(C)/2012, dated 13th September, 2012. and, F. No. PNGRB/M(C)/48, dated 17th February, 2014 and, F. No. PNGRB/M(C)/100, dated 27th February, 2014 and, F. No. L-MISC/VI/I/20017, dated 01st January, 2015 and, PNGRB/M(C)/110, dated 08th January, 2016, PNGRB/COM/2-NGPL Tariff (3)/2019, dated 27th May, 2019, and F. No. PNGRB/COM/2-NGPL/Tariff (3)/2019 Vol-II, dated 27th March, 2020 and F. No. PNGRB/COM/2-NGPL/Tariff (3)/2014 Vol-IV(Part-1) (P-1439) dated 23rd November, 2020.