



Petroleum & Natural Gas
Regulatory Board, India

Public Consultation Document

(Ref: No. PNGRB/M(C)/209 dated

Subject:	Provisional unit natural gas pipeline tariff (“Provisional Tariff”) under the provisions of the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Regulations, 2008. (“Tariff Regulations”)
Name of Entity:	GAIL (India) Limited
Name of Pipeline:	Jagdishpur Haldia Bokaro Dhamra (JHBDPL) Natural gas Pipeline
Acceptance of Central Government Authorization:	Infra/NGPL/124/GAIL/JHBDPL01/17 dated 29.12.2017 (“Provisional Authorization Letter”), Infra/NGPL/124/GAIL/JHBDPL01/18 dated 29.01.2018 (“Final Authorization Letter”), Infra/NGPL/124/GAIL/JHBDPL/01/18 dated 02.02.2018 (“Provisional Authorization Letter” Barauni Guwahati P/L)
Maximum Achievable Capacity:	16 MMSCMD (Provisional)
Length:	2619 Kms (Jagdishpur Haldia Bokaro Dhamra P/L) 672 Kms (Barauni Guwahati P/L) Total: 3291 Kms
Economic Life	01.01.2019 to 31.12.2043

1. Regulatory Framework

In terms of Section 22 of the PNGRB Act, 2006, the Board is entrusted with the responsibility of determining the natural gas pipeline tariff to be charged by the entities laying, building, operating or expanding a natural gas pipeline before the appointed day.

2. PNGRB orders on final acceptance of authorization and capacity of JHBDPL

PNGRB has issued the Final Authorization for acceptance to the Central Government authorization for the JHBDPL of GAIL (India) Limited under Regulation 17(1) of PNGRB (Authorizing Entities to Lay, Build, Operate or Expand Natural Gas Pipelines) Regulations, 2008 (“Authorization Regulations”) vide letter no: Infra/NGPL/124/GAIL/JHBDPL/01/18 dated 29.01.2018 (Placed as annexure-I). This authorization mentioned provisional total system capacity of the JHBDPL as 16 MMSCMD determined under the provisions of PNGRB (Determining Capacity of Petroleum, Petroleum Products and Natural Gas Pipeline) Regulations 2010 (“Capacity Regulations”) including capacity of 4 MMSCMD for use on common carrier, open access and non-discriminatory basis by any third party. Further, PNGRB has also issued Provisional Authorization for Barauni – Guwahati Natural Gas pipeline as an integral part of JHBDPL vide letter Infra/NGPL/124/GAIL/JHBDPL/01/18 dated 02.02.2018 (Placed as annexure-II).

3. Details of tariff filing submitted by GAIL

GAIL, vide its communication dated 10.09.2018, has proposed provisional tariff for JHBDPL as Rs. 150.46 per MMBTU on GCV basis from 01.01.2019 till the end of economic life of pipeline i.e. up to 31.12.2043.

4. Important aspects of tariff filing by GAIL

4.1 Economic Life of pipeline

GAIL has considered 01.01.2019 as expected date of commissioning of JHBDPL and the economic life of the pipeline has been considered at 25 years from 01.01.2019 to 31.12.2043 as per the tariff filing model. GAIL has also considered pre-construction period from FY 2015-16 to FY 2018-19.

4.2 Capital Expenditure (Capex)

GAIL in its tariff filing for determination of final tariff has submitted the Capex for JHBDPL (including Barauni – Guwahati P/L) excluding interest during construction (IDC) as Rs.14895.93 Crore (with inflation), same is reduced by viability gap funding of Rs 4995.41 Crore (net of IDC) to be received from MoP&NG. The detailed break up of Capex as submitted are as under:

Particulars	Amount (Rs. Crore)
Actual Capex (Including Pre-commissioning Cost) excluding IDC till 31.03.2018	2339.43
Future capex for laying of JHBDPL and Barauni- Guwahati P/L connectivity (excluding IDC and including inflation)	12556.51
Capital Grant in form of Viability Gap funding from MoP&NG (excluding IDC)	(4995.41)
Total	9900.53

*Escalation @ 5.02%

Above Capex is expected under following three phases:

Phase-I: Jagdispur Haldia Pipeline- Section I (Expected date of Commissioning as 31.12.2018)

Phase -II: Dhamra-Angul, Dobhi-Durgapur, Bokaro- Angul, Durgapur- Haldia Pipeline (Expected date of Commissioning as 31.12.2020)

Phase-III: Barauni Guwahati Pipeline (Expected date of Commissioning as 30.11.2021)

Details of capex as per DFR of JHBDPL are as follows:

Sr No	Description	Type- Trunk/ Spur	Size and length	Capex in Rs Crore
<u>PHULPUR-DOBHI SECTION</u>				
1	Phulpur to Dobhi Main line	Trunk	30" x 341.46 Kms	1622.871
2	Gorakhpur ToP to FCI Gorakhpur	Spur	18" x 163.2 Kms	470.943
3	Varanasi ToP to CGS Varanasi	Spur	8" x 15Kms	25.731
4	Dobhi to Patna TOP	Spur	24" x 83.4 Kms	252.009
5	Patna ToP to HFC Barauni	Spur	24" x 78.749 kms	254.745
6	To Petrochemical plant Barauni	Spur	12" x 8 kms	
7	Patna ToP to CGS Patna	Spur	12" x 65.089 Kms	
	Sub Total			2626.299
	Engineering cost			103.284
	Site Related Cost (Land for Terminals/ Stations)			29.403
	Others (OME)			32.823
	Contingency			140.49
	Moderation against RoU cost (as per approval)			-125.1
A	TOTAL PHULPUR-DOBHI SECTION			2807.20
<u>DOBHI TO SINDRI/ RANCHI SECTION</u>				
1	Mainline from Dobhi to Sindri ToP	Trunk	30" x 190.3 Kms	905.7303
2	Mainline from Bokaro ToP to Ranchi CGS	Trunk	30" x 102.546 Kms	456.885
3	Mainline TOP to SAIL Bokaro	Trunk	12" x 6.70 Kms	16.434
4	Mainline TOP to FCI Sindri	Trunk	12" x 6.710 Kms	29.142
	Sub total			1408.1913
	Engineering cost			57.429
	Site Related Cost (Land for Terminals/ Stations)			16.353

	Others (OME)			18.252
	Contingency			77.616
B	TOTAL DOBHI TO SINDRI/RANCHI SECTION			1577.84
SINDRI TO HALDIA SECTION				
1	Mainline from Sindri ToP to Kolkata ToP	Trunk	30" x 242 Kms	1150.4304
2	Mainline from Kolkata ToP to Haldia RT	Trunk	24" x 148.3 kms	448.11
3	Mainline TOP to CGS Kolkata	Spur	18" x 47.620 Kms	147.537
4	Haldia RT to IOCL Haldia	spur	18" x 15.558 Kms	63.216
5	Mainline TOP to CGS Jamshedpur	Spur	12" x 112.715 Km	228.915
6	Mainline TOP to HFC Durgapur	spur	24" x 5.922 Kms	93.492
7	To SAIL Durgapur	spur	12" x 5 Kms	
8	To DPL Durgapur	spur	18" x 6 Kms	
	Sub total			2131.7004
	Engineering cost			86.94
	Site Related Cost (Land for Terminals/ Stations)			24.77
	Others (OME)			27.63
	Contingency			117.50
C	TOTAL SINDRI TO HALDIA SECTION			2388.54
RANCHI-ANGUL-DHAMRA SECTION				
1	Dhamra-Angul mainline	Trunk	36" x 210 Kms	1113.0
2	Angul-Ranchi mainline	Trunk	30" x 446 Kms	1970.2
3	RT at Dhamra			19.2
4	Jindal steel and Power, Ranchi	spur	6" x 25 Kms	29.0
5	Raurkela spurline	Spur	4" x 24 Kms	15.7
6	Bhushan steel + Aditya Birla Sambalpur + Jharsuguda spurline	spur	12" /4" x 38.5 Kms	68.9
7	Jindal Thermal spurline	Spur	6" x 11 Kms	12.2
8	Cuttack/Bhubneshwar spur	Spur	12" x 109 Kms	172.6

9	Paradip spur	Spur	12" x 80 Kms	124.0
	Sub Total (A)			3524.8
	Engineering cost			105.7
	service tax			15.9
	Sub Total (B)			121.6
	Owners expenses			105.7
	Contingency			187.6
D	TOTAL RANCHI-ANGUL-DHAMRA SECTION			3939.8
E	GRAND TOTAL of JHPL/JHBDPL (A+B+C+D)			10713

Details of capex as per DFR of BGPL are as follows:

Sr No	Description	Type- Trunk /Spur	Size and length	Capex in Rs Crore
<u>BARAUNI-GUWAHATI SECTION</u>				
1	Barauni to Guwahati Main line	Trunk	24" x 708 Kms	2819
2	IOC Guwahati Spurline	Spur	12" x 14 Kms	38.05
3	IOC Bongaigaon Spurline	Spur	12" x 5 Kms	18.1
	Total cost including linepack			2900

4.2.1 Actual Capex (Including Pre-Commissioning Cost)

GAIL under this head has claimed actual Capex of Rs. 1489.43 Crore after netting Rs. 850 Crore received as grant from Central Government (i.e. Rs. 2339.43 Crore less Rs 850 Crore) from FY 2015-16 to FY 2017-18. Actual Capex submitted by GAIL in its tariff filing dated 10.09.2018 is not matching with the CA certificate dated 08.02.2018, there is a difference of Rs.15.14 Crore.

Further, GAIL has provided management approval of JHBDPL project including Barauni Guwahati pipeline section with approved project cost of Rs 14,913 Crore (Jagdishpur Haldia Bokaro Dhamra P/L).

Detailed breakup of actual Capex considered by GAIL in its tariff filing is as follows.

Particulars	Total (Rs. Crore)
CWIP (excluding IDC) till 31.03.2016	141.85
CWIP (excluding IDC) during FY 2016-17	525.56
CWIP (excluding IDC) during FY 2017-18*	1672.03
Total	2339.43

*Not Matching with CA certificate provided.

1.2.2 Additional connectivity future Capex estimates

GAIL in its tariff filing has proposed a Capex of Rs. 3277.27 Crore (excluding IDC, including Inflation and line pack) for PNGRB authorized connectivity from Barauni to Guwahati in FY 2020-21 and 2021-22.

4.3 Operating Expenses (Opex)

GAIL in its updated submission, has claimed 2.5% of accumulated gross block as opex per annum, it has further escalated the same by inflation rate of 5.02% per annum based on CAGR of WPI from April'09 to March'17. Accordingly, total Opex of Rs.18,646.54 Crore are claimed during the economic life of the pipeline from 01.01.2019 to 31.12.2043.

For considering Opex as 2.5% of capex on normative basis, GAIL has stated that same is derived from 1.25% on account of R&M cost, 0.25% for insurance and 1% for manpower/ overhead.

4.4 Unaccounted for Gas

In addition to Opex, GAIL has also claimed Unaccounted for gas @ 0.30 % of the respective volume of that year. Accordingly, total Unaccounted for Gas of Rs. 1,330.21 Crore are claimed during the economic life of the pipeline.

4.5 Working Capital

GAIL in its tariff submission has submitted total working capital requirement for 18 days of tariff receivables and 30 days of operating costs considering 345 working days for the pipeline.

4.6 Line Pack:

Line pack is the value of gas which always remains in the pipeline during its economic life. As per regulations line pack is to be considered as cash outflow in the initial year and to be considered as cash inflow in the last year of the economic life of the pipeline. GAIL has considered Line Pack of Rs. 35.48 Crore (Phase-I) for gas quantity of 14 MMSCM in 2018-19, additional Line pack of Rs 117.52 Crore (Phase-II) for gas quantity of 46.38 MMSCM in 2020-21 and Rs. 30.58 Crore for gas quantity of 11.15 MMSCM as Line Pack of Barauni Guwahati P/L connectivity. Same is part of cash inflow in the terminal year i.e. FY 2043-44.

4.7 Terminal Value:

GAIL, in its tariff submission, has considered Rs. 3144.17 Crore as terminal value of the assets (Written down value of assets throughout the economic life of the pipeline) as at the end of the economic life (to be considered as cash inflow at the end of economic life of the pipeline as per the Tariff Regulations) including addition for working capital and line pack.

4.8 Volume Divisor:

Year wise volume divisor considered by GAIL in its tariff submission are as follows:

Financial Year	Capacity (in MMSCMD)*
2018-19	3.35
2019-20	3.91
2020-21	8.32
2021-22	9.52
2022-23	10.72
2023-24	13.44
2024-25	13.78
2025-26	14.04
2026-27	14.13
2027-28	14.24
2028-29	14.34
2029-30	14.45
2030-31	14.56
2031-32	14.68
2032-33	14.81
2033-34	14.93
2034-35	15.07
2035-36	15.21
2036-37	15.35
2037-38	15.50
2038-39	15.66
2039-40	15.82
2040-41	15.99
2041-42 Onwards	16.00

4.9 Weighted Average Heat Value

As per Clause 6 of Schedule A of Tariff Regulations, the volume of natural gas determined as per the regulations shall be converted into its energy equivalence in MMBTU terms for the purpose of determination of final initial unit natural gas

pipeline tariff by considering the weighted average heat value of natural gas delivered to customers during the initial unit natural gas pipeline tariff period. GAIL in its submissions has considered Gross Calorific Value of 9455 Kcal/SCM of the gas throughout economic life of the pipeline.

4.10 Number of Working Days

GAIL has considered 345 working days throughout the economic life of the pipeline considering 20 days plant shutdown.

4.11 Return on Capital Employed

As per Clause 2 of Schedule A of the Tariff Regulations, natural gas pipeline tariff shall be calculated based on the DCF methodology after considering the reasonable rate of return (i.e. “twelve percent post-tax” as per clause 3 to Schedule A) to be the projects internal rate of return.

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 assesses. Rates of corporate income tax applicable each year to GAIL and subsequent computation of pre-tax rate of return (as submitted by GAIL) are as follows:

Financial Year	2015-16	2016-17	2017-18	2018-19	2019-20 Onwards
Income Tax Rate	34.61%	34.61%	34.61%	34.94%	34.94%
Pre-tax rate of return	18.35%	18.35%	18.35%	18.45%	18.45%

4.12 Zonal Apportionment

If the length of the pipeline is more than 300 kms the recovery of the transportation tariff is apportioned across such zones of 300 kms each resulting in zonal tariff where the zonal tariff of a later zone is higher than that of an earlier zone. As per Final

Authorisation Letter the length of JHBDPL is 2691 Kms. Hence Zonal apportionment proposed by GAIL is as follows:

Zone	Proposed Tariff (Rs./MMBTU-GCV)
Tariff Zone 1	150.33
Tariff Zone 2	150.49
Tariff Zone 3	150.49
Tariff Zone 4	150.49
Tariff Zone 5	150.49

5 Views of stakeholders sought

5.1 Determination of the provisional initial unit natural gas pipeline tariff is a time bound exercise. PNGRB solicits the views of all the stakeholders in writing on GAIL's tariff filing for the JHBDPL within 15 days of issue of this document i.e. by 02.11.2018 at the following address:

*Secretary,
Petroleum and Natural Gas Regulatory Board,
1st Floor, World Trade Centre,
Babar Road, New Delhi 110001.
Email:- secretary@pngrb.gov.in*

5.2 Stakeholders other than GAIL to mark copy of all comments to GAIL at following address:

*Cheif General Manager (Mktg.-RA)
GAIL (India) Limited
GAIL Bhawan,
16, Bhikaiji Cama Place,*

New Delhi-110066

Email: cragroup@gail.co.in

5.3 GAIL to submit its response on comments of other stakeholders to PNGRB by 12.11.2018.

5.4 Open house to discuss the comments of all the stakeholders shall be held at 11:00 Hrs on 19.11.2018 at PNGRB office as per address mentioned at para 5.1 above.

(Vandana Sharma)

Secretary

For and on behalf of the Board