



## **Public Consultation Document**

**(Ref: No. PNGRB/M(C)/88-Vol IV dated 25.08.2017)**

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**Subject:** **Final initial unit natural gas pipeline tariff under the provisions of the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Regulations, 2008.**

**Name of Entity:** **GAIL (India) Limited [GAIL]**

**Name of Network:** **Gujarat Natural Gas Pipeline Network**

**Name of Pipeline:**

- (a) Baroda sub-network**
- (b) Motwan sub-network**
- (c) Kadi-Kalol sub-network**
- (d) Kalol-Ramol sub-network**
- (e) Mehsana sub-network**
- (f) Paliyad sub-network**
- (g) Ex-Hazira (GGCL)**

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## **1. Regulatory Framework**

- 1.1. 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.
- 1.2. The methodology for determination of pipeline tariff has been specified in the relevant provisions of the Petroleum and Natural Gas Regulatory Board (Determination of Natural Gas Pipeline Tariff) Regulations, 2008 (hereinafter referred to as “Tariff Regulations”) notified on 20.11.2008. Under the provisions of these regulations, PNGRB is to determine the initial unit natural gas pipeline tariff on a provisional basis first and then finalize the same considering the actual costs and data at the end of the Financial Year on the basis of audited accounts. The transportation tariff is determined using the Discounted Cash Flow (DCF) method using actual and projected pipeline capex and opex costs (in line with provisions of Tariff Regulations) over the entire economic life of the pipeline thus arriving at a single levelized transportation tariff. If the length of the pipeline is more than 300 km the recovery of the transportation tariff is apportioned across such zones of 300 km each resulting in zonal tariff where the zonal tariff of a later zone is higher than that of an earlier zone.
- 1.3. On 03.12.2010, PNGRB issued the provisional terms and conditions for acceptance of Central Government authorization for laying, building, operating or expanding the Gujarat Natural Gas Pipeline System as common carrier pipeline network under regulation 17 (1) of the Petroleum and Natural Gas Regulatory Board (Authorizing Entities to Lay, Build, Operate or Expand Natural Gas Pipelines) Regulations, 2008 (hereinafter referred to as

“Authorization Regulations”). As per the authorization, the Gujarat Natural Gas Pipeline System was consisting of two sub- networks as follows:

- i. South Gujarat Network of 632.54 Kms, capacity of 15.42 MMSCMD with a common carrier capacity of 3.85 MMSCMD,
- ii. North Gujarat Network of 153 Kms, capacity of 2.91 MMSCMD with a common carrier capacity of 0.73 MMSCMD.

1.4. Subsequently, vide communication dated 14.12.2012 to GAIL, PNGRB accepted some of the pipelines in the South Gujarat Network and North Gujarat Networks as dedicated natural gas pipelines.

1.5. On 29.04.2014, PNGRB has issued the final terms and conditions for acceptance to the Central Government authorization under Regulation 17(1) of Authorization Regulations. As per the final terms and conditions, the Gujarat Natural Gas Pipeline Network has seven separate sub-networks of common carrier pipelines, with separate length and capacity, as follows:

<b>S no</b>	<b>Sub-network</b>	<b>Length in km</b>	<b>Capacity in MMSCMD</b>	<b>Common Carrier Capacity in MMSCMD</b>
1	South Gujarat Pipeline	480.985	3.250	0.81
2	South Gujarat (Motwan) Pipeline	3.692	0.086	0.02
3	South Gujarat (Kadi-Kalol) Pipeline	36.220	0.128	0.03
4	North Gujarat (Kalol-Ramol) Pipeline	53.580	0.666	0.17
5	North Gujarat (Mehsana) Pipeline	23.460	0.235	0.06
6	North Gujarat (Paliyad) Pipeline	0.230	0.068	0.02
7	Ex-Hazira – GGCL Surat NG Pipeline	10.650	3.880	0.97
		<b>608.817</b>	<b>8.313</b>	<b>2.08</b>

## 2. Provisional Transportation Tariff Orders

2.1. PNGRB issued a provisional Tariff Order no. TO/08/2014 dated 29.10.2014 determining the provisional initial unit natural gas pipeline tariff under the provisions of the Tariff Regulations for Gujarat Natural Gas Pipeline of GAIL (available on PNGRB's website). The provisional transportation tariff as proposed by GAIL and as determined by PNGRB are as follows:

<b>Particulars</b>	<b>Provisional Tariff submitted by GAIL (Rs. / MMBTU on GCV basis)</b>	<b>Provisional Tariff Approved by PNGRB (Rs. / MMBTU on GCV basis)</b>
South Gujarat Pipeline	11.74	7.81
South Gujarat (Motwan) Pipeline	23.27	0.78
South Gujarat (Kadi-Kalol) Pipeline	4.34	1.84
North Gujarat (Kalol-Ramol) Pipeline	94.34	6.86
North Gujarat (Mehsana) Pipeline	11.01	1.86
North Gujarat (Paliyad) Pipeline	5.03	0.58
Ex-Hazira – GGCL Surat NG Pipeline	6.80	0.42

## 3. Order of Appellate Tribunal for Electricity (APTEL)

3.1. GAIL had challenged PNGRB's provisional tariff order in APTEL in IA no. 192 of 2015 and Appeal no. 116 of 2015. APTEL in its order dated 02.12.2016 has directed PNGRB to determine the final tariff by 30.06.2017 (further extended by APTEL for 3 months from the date of appointment of complete Quorum of the PNGRB vide order dated 21.07.2017). APTEL has

also stated that during the pendency of the proceedings before PNGRB, the provisional tariff already fixed shall continue to apply.

#### **4. Details of tariff filing submitted by GAIL**

4.1. PNGRB requested GAIL vide letter dated 10.04.2015 for submission of Tariff filing for finalization of initial unit natural gas pipeline tariff for Gujarat Natural Gas Pipeline Network by 09.05.2015. GAIL responded vide letter dated 11.05.2015 by requesting for extension for a period up to 15.06.2015 for submission of final tariff. PNGRB vide its letter dated 25.05.2015 accepted the request.

4.2. **Tariff proposed by GAIL w.e.f. 01.04.2017 are as follows:**

<b>Particulars</b>	<b>Tariff (Rs. / MMBTU) on GCV basis</b>
South Gujarat Pipeline Network	90.52
South Gujarat (Motwan) Pipeline Network	14.56
South Gujarat (Kadi-Kalol) Pipeline Network	92.32
North Gujarat (Kalol-Ramol) Pipeline Network	30.94
North Gujarat (Mehsana) Pipeline Network	36.79
North Gujarat (Paliyad) Pipeline Network	7.78
Ex-Hazira – GGCL Surat NG Pipeline	4.31

4.3. GAIL vide letter dated 15.06.2015 submitted:

- (a) Attachments as per Schedule in Tariff Regulations (from Schedule 1 f to 1 j) for Baroda Network (Trial Balance for BA-3110 and 3020);
- (b) Extract of trial balance from FY 2008-09 to 2013-14 certified by CA (for BA 3110 and 3020).

- (c) Copy of abstract of MOM of Board of Directors as a supporting document for replacement of Gujarat Network pipelines in 2 phases for Rs.544.42 cr.

**4.4. GAIL submitted another bunch on 07.08.2015 comprising of:**

- i. Audited copies of Trial Balance of Baroda unit (BA 3110 & 3020) for the FY 2008-09 to 2013-14 in respect of six (06) sub-network of Gujarat NGPL networks (BA-3020 & 3110). GAIL informed that Audited copies of Trial Balance of Hazira unit (BA 3011) for the FY 2008-09 to 2013-14 in respect of Ex-Hazira (GGCL) sub-network was submitted vide letter dated 16.07.15.
- ii. GAIL also submitted that it is confirmed by site F&A in-charge that CA certificates as per format of PNGRB has been prepared based on final Trial Balance submitted.
- iii. Original copy of CA certificate of Baroda Unit (BA 3110 & 3020) for Opening Gross Block of six (06) sub-networks, year-wise net additions and deletions to the sub-network assets, year wise depreciation and year wise net block of these sub-networks for the FY 2008-09 as per the format of PNGRB duly reconciled with the “Fixed Assets” appearing in the respective Trial Balance and copy of CA certificate of Hazira unit (BA 3011) in respect of Ex-Hazira (GGCL) sub-network.
- iv. Original copy of CA certificate of Baroda Unit (BA 3110 & 3020) for net additions to Fixed Assets [excluding Interest during Construction (IDC) ] from 2009-10 to 2014-15 duly reconciled with Trial Balance of respective years in respect of six (06) sub-networks and a copy of CA certificate of Hazira unit (BA 3011) in respect of Ex-Hazira (GGCL) sub-network.
- v. Original copy of CA certificate of Baroda Unit (BA 3110 & 3020) for Capital Work-In-Progress (CWIP) [excluding Interest during Construction (IDC)] from 08-09 to 14-15 duly reconciled with Trial Balance of respective

- years in respect of six (06) sub-networks and a copy of CA certificate of Hazira unit (BA 3011) in respect of Ex-Hazira (GGCL) sub-network.
- vi. Original CA certified copies of Baroda Unit (BA 3110 & 3020) for operating expenditure along with GL code wise breakup from 2008-09 to 2014-15 duly reconciled with Trial Balance of respective years in respect of six (06) sub-networks and a copy of CA certificate of Hazira unit (BA 3011) in respect of Ex-Hazira (GGCL) sub-network.
- vii. GAIL in its submission has stated that GAIL Board has approved an amount of Rs. **716.09 cr** for replacement of pipelines in Gujarat NG PL network, however as per copy of abstract of MOM of Board of Directors as a supporting document (submitted vide earlier submission) for replacement of Gujarat Network pipelines in 2 phases for Rs. **544.42 cr** (Rs.199.95 in Phase-I and Rs.344.47 in Phase-II). GAIL submitted that Work / purchase orders amounting to Rs 230.76 cr (approx) are placed as on date and rest of purchase orders are under process.
- viii. GAIL submitted supporting documents towards O&M future capex Rs.9.45 cr (Purchase/Work order are for GAIL as a whole & proportionate amount for Gujarat Network has been informed).
- ix. Unaccounted gas data as appearing in the books of accounts of GAIL duly certified by CA is as:

<b>Pipeline</b>	<b>Year</b>	<b>Rs. Lakh</b>	<b>MMMSCM</b>
South Gujarat Pipeline Network	Q4 2008-09	-	-
South Gujarat Pipeline Network	2009-10	1569.14	51.73
South Gujarat Pipeline Network	2010-11	15.81	0.21
South Gujarat Pipeline Network	2011-12	147.41	1.78
South Gujarat Pipeline Network	2012-13	-	-
South Gujarat Pipeline Network	2013-14	312.66	3.74
South Gujarat Pipeline Network	2014-15	-	-
<b>TOTAL</b>		<b>2,045.03</b>	<b>57.46</b>

xi. Gail has given justification for non recurring O&M capex and O&M opex data from 2008-2009 onwards.

xii. It has also submitted CA Certified details and value of LMC as:

<b>Year (Number of Customers)</b>	<b>Length of Pipeline facility added (Km)</b>	<b>Capitalisation Cost (Rs.in Lakh)</b>
2013-14 (2)	0.53	165.49
2014-15 (2)	1.67	294.63

4.5. PNGRB vide letter dated 21.12.16 asked GAIL to submit updated data for determination of final tariff of Gujarat Natural Gas Pipeline Network within 30 days from the date of that letter.

4.6. Gail vide letter dated 20.01.17 submitted:

- a) Updated data upto FY 15-16 and future projection from 16-17 onwards for determination of final tariff.
- b) Approved financial cost and other data (including list of customers) for determination of final tariff.
- c) Original CA certified copies of Baroda unit BA-3110/Hazira Unit BA-3011 for Gross Block, Accumulated Depreciation, Re-casted Depreciation, Net Block, Re-casted Net Block, Net Addition/deletion to Gross Block, Net addition/deletion to CWIP and operating expenditures along with copy of audited trial balance for FY15-16 and original CA Certificate of allocation of corporate common capex and opex for FY 15-16.
- d) Details of future capex considered and supporting documents viz. purchase requisitions, budgetary quotations, cost estimate by consultants, write up, etc.



- e) List of customers on various sub networks of Gujarat Natural Gas Pipeline network. GAIL submitted that provisional tariff as per PNGRB Tariff Order dated 29.10.14 has been applied and charged to the customers.

While reviewing submission by the GAIL it was observed that audited / certified Trial Balance for FY 14-15 had not been submitted. GAIL was requested to submit the same on 03.05.17, which it submitted vide email dated 05.05.17.

The various aspects relevant to the tariff filing submitted by GAIL are as follows:

- i. **Economic life of the sub-networks:** GAIL, in its tariff filing, has considered the economic life of the seven sub-networks of Gujarat Natural Gas Pipeline Network ending as follows:

<b>S.No</b>	<b>Particulars</b>	<b>Economic life ending as on</b>
1	South Gujarat Pipeline Network	15.05.2027
2	South Gujarat (Motwan) Pipeline Network	31.01.2029
3	South Gujarat (Kadi-Kalol) Pipeline Network	15.05.2027
4	North Gujarat (Kalol-Ramol) Pipeline Network	15.05.2027
5	North Gujarat (Mehsana) Pipeline Network	15.05.2027
6	North Gujarat (Paliyad) Pipeline Network	31.03.2027
7	Ex-Hazira – GGCL Surat NG Pipeline	18.02.2027

As per the final terms and conditions of PNGRB's acceptance of Central Government authorization, the initial pipelines of Gujarat Natural Gas Pipeline Network were handed over by ONGC to GAIL in year 1992, the economic life of which was ending in year 2017, has been extended for another 10 years up to 2027. Hence it is proposed to consider the economic life of the seven sub-networks of Gujarat Natural Gas Pipeline Network up to the year 2027 (except Motwan network where in it is 31.01.2029).

- ii. **Capital Expenditure (Capex)**: GAIL has submitted actual capex details up to 15-16. For remaining life, GAIL in its tariff filing has projected future capex from 16-17 to the economic life ending of each sub-network.

<b>Particulars</b>	<b>South Gujarat</b>	<b>South Gujarat (Motwan)</b>	<b>South Gujarat (Kadi-Kalol)</b>
NFA as on 30.09.2008 (As per Tariff filing submitted by GAIL NFA is recalculated by GAIL considering depreciation @3.17% on pipeline assets since inception)	10,155.08	32.18	204.92
CWIP as on 30.09.08	15.61	0.05	0.53
Common corporate assets for 08-09	231.16	0.73	8.55
Capex outgo from 30.09.08 to 15-16	4,248.75	(0.95)	147.72
CWIP 09-10 to 15-16	5,812.68	0.89	973.06
Common corporate assets from 9-10 to 15-16	974.78	(0.30)	6.60
Future capex outgo projections from 16-17 to end of Economic life	61,334.94	279.27	1,756.90
Future common corporate assets projections from 16-17 to end of Economic life	-	-	-
<b>TOTAL</b>	<b>82,773.01</b>	<b>311.86</b>	<b>3,098.28</b>

<b>Particulars</b>	<b>North Gujarat (Kalol-Ramol)</b>	<b>North Gujarat (Mehsana)</b>	<b>North Gujarat (Paliyad)</b>	<b>Ex-Hazira GGCL Surat</b>
NFA as on 30.09.2008 (As per Tariff filing submitted by GAIL NFA is recalculated by GAIL considering depreciation @3.17% on pipeline assets since inception)	1,899.56	190.21	18.23	177.24
CWIP as on 30.09.08	0.53	0.20	0.05	-
Common corporate assets 08-09	8.53	3.25	0.75	22.01
Capex outgo 30.09.08 to 15-16	187.65	20.25	(0.20)	404.44
CWIP 09-10 to 15-16	2.14	23.07	3.60	-
Common Corp. assets 09-10 to 15-16	(11.93)	18.03	2.42	6.81
Future capex outgo projections from 16-17 to end of Economic life	241.37	1,893.82	19.64	-
Future common corporate assets projections from 16-17 to end of Economic life	-	-	-	-
<b>TOTAL</b>	<b>2,327.85</b>	<b>2,148.83</b>	<b>44.49</b>	<b>610.50</b>

Details of capex have been discussed below:

**A. Net Fixed Assets (Excluding Common Corporate Assets):**

<b>Particulars</b>	<b>NFA as on 30.09.2008 Including CWIP</b>	<b>As per CA Certificate 30.09.2008</b>
South Gujarat Pipeline Network	10,170.69	6,775.75
South Gujarat (Motwan) Pipeline Network	32.22	29.34
South Gujarat (Kadi-Kalol) Pipeline Network	205.45	35.76
North Gujarat (Kalol-Ramol) Pipeline Network	1,900.09	1,680.82
North Gujarat (Mehsana) Pipeline Network	190.41	91.35
North Gujarat (Paliyad) Pipeline Network	18.28	10.41
Ex-Hazira – GGCL Surat NG Pipeline	177.24	19.90

GAIL in its tariff filing has recalculated NFA considering depreciation rate of 3.17% on pipelines and related assets since inception of the pipeline. However in books of

accounts GAIL has considered depreciation of 3.17% from 01.04.2005 onwards as per the approval of Ministry of Company Affairs. The rate of depreciation has been approved by Ministry of Company Affairs for Oil and Gas pipelines vide letter dated 31.08.2005 to be effective from 01.04.2005 whereas in its tariff filing GAIL has recalculated NFA considering 3.17% depreciation since inception of the pipeline.

**B. Actual Capex Outgo from 30.09.2008 to FY 15-16**

<b>Particulars</b>	<b>Capex outgo from 30.09.08 to 15-16 as per Tariff Filing</b>	<b>CA Certificate</b>
South Gujarat Pipeline Network	4,248.75	4,248.75
South Gujarat (Motwan) Pipeline Network	(0.95)	(0.95)
South Gujarat (Kadi-Kalol) Pipeline Network	147.72	147.72
North Gujarat (Kalol-Ramol) Pipeline Network	187.65	187.65
North Gujarat (Mehsana) Pipeline Network	20.25	20.25
North Gujarat (Paliyad) Pipeline Network	(0.20)	(0.20)
Ex-Hazira – GGCL Surat NG Pipeline	404.44	404.44

**C. Capital Work in Progress (CWIP)**

<b>Particulars</b>	<b>CWIP Considered in Tariff Calculation</b>	<b>CA Certificate (Excluding IDC)</b>
South Gujarat Pipeline Network	5,812.68	5,791.92
South Gujarat (Motwan) Pipeline Network	0.89	0.88
South Gujarat (Kadi-Kalol) Pipeline Network	973.06	972.74
North Gujarat (Kalol-Ramol) Pipeline Network	2.14	2.10
North Gujarat (Mehsana) Pipeline Network	23.07	22.72
North Gujarat (Paliyad) Pipeline Network	3.60	3.60
Ex-Hazira – GGCL Surat NG Pipeline	-	-

## **D. Common Corporate Assets**

Year wise gross common corporate assets allocated to seven sub-networks of South Gujarat Regional Pipeline Network as given in tariff filing and that given in CA Certificate are as follows:

### **South Gujarat Pipeline Network**

<b>Year</b>	<b>Rs.in Lakhs</b>	
	<b>CAPEX</b>	<b>CA Certificate</b>
30-09-2008	396.98	396.98
31-03-2009	395.48	395.48
2009-2010	422.96	422.96
2010-2011	309.78	309.78
2011-2012	564.64	564.64
2012-2013	658.51	658.51
2013-2014	785.65	785.65
2014-2015	812.95	812.95
2015-2016	1371.76	1371.76

### **South Gujarat (Motwan) Pipeline Network**

<b>Year</b>	<b>Rs.in Lakhs</b>	
	<b>CAPEX</b>	<b>CA Certificate</b>
30-09-2008	1.25	1.25
31-03-2009	1.25	1.25
2009-2010	1.64	1.64
2010-2011	1.23	1.23
2011-2012	1.88	1.88
2012-2013	1.56	1.56
2013-2014	1.17	1.17
2014-2015	1.05	1.05
2015-2016	0.95	0.95

**South Gujarat (Kadi-Kalol) Pipeline Network**

	<b>Rs. in Lakhs</b>	
<b>Year</b>	<b>CAPEX</b>	<b>CA Certificate</b>
30-09-2008	14.69	14.69
31-03-2009	14.63	14.63
2009-2010	12.65	12.65
2010-2011	10.89	10.89
2011-2012	16.40	16.40
2012-2013	19.68	19.68
2013-2014	21.53	21.53
2014-2015	21.48	21.48
2015-2016	21.28	21.28

**North Gujarat (Kalol-Ramol) Pipeline Network**

	<b>Rs. in Lakhs</b>	
<b>Year</b>	<b>CAPEX</b>	<b>CA Certificate</b>
30-09-2008	14.65	14.65
31-03-2009	14.59	14.59
2009-2010	13.67	13.67
2010-2011	9.58	9.58
2011-2012	15.96	15.96
2012-2013	18.40	18.40
2013-2014	22.62	22.62
2014-2015	20.27	20.27
2015-2016	2.71	2.71

**North Gujarat (Mehsana) Pipeline Network**

	<b>Rs. in Lakhs</b>	
<b>Year</b>	<b>CAPEX</b>	<b>CA Certificate</b>
30-09-2008	5.59	5.59
31-03-2009	5.57	5.57
2009-2010	6.89	6.89
2010-2011	5.79	5.79
2011-2012	11.16	11.16
2012-2013	11.39	11.39
2013-2014	16.09	16.09
2014-2015	21.78	21.78
2015-2016	23.62	23.62

**North Gujarat (Paliyad) Pipeline Network**

	<b>Rs.in Lakhs</b>	
<b>Year</b>	<b>CAPEX</b>	<b>CA Certificate</b>
30-09-2008	1.29	1.29
31-03-2009	1.28	1.28
2009-2010	1.40	1.40
2010-2011	1.24	1.24
2011-2012	2.49	2.49
2012-2013	2.72	2.72
2013-2014	3.77	3.77
2014-2015	5.59	5.59
2015-2016	3.70	3.70

### **Ex-Hazira – GGCL Surat NG Pipeline**

<b>Year</b>	<b>Rs. in Lakhs</b>	
	<b>CAPEX</b>	<b>CA Certificate</b>
30-09-2008	37.80	37.80
31-03-2009	37.65	37.65
2009-2010	54.02	54.02
2010-2011	37.63	37.63
2011-2012	70.95	70.95
2012-2013	71.53	71.53
2013-2014	92.49	92.49
2014-2015	87.01	87.01
2015-2016	44.61	44.61

With regards to mechanism for allocation of common corporate assets GAIL has stated that-GAIL has 8 offices/work centers and 11 zonal marketing offices providing services to whole company. There are many capital expenditure and operating expenditure incurred to build, maintain and operate these offices and bifurcated them among all business segments of the company on the basis of total gross block of respective business segments. Capex and Opex allocated to business segment-NG Transmission is then allocated to all the pipelines including dedicated pipelines on the basis of actual throughput in that particular pipeline system in the corresponding previous year.

### **E. Future Capex Outgo considered in Tariff Calculation**

<b>South Gujarat Pipeline Network</b>				<b>Rs. in Lakhs</b>
<b>Year</b>	<b>PD Future Capex</b>	<b>PE Future Capex</b>	<b>O&amp;M Future Capex</b>	<b>Total Future Capex</b>
2016-17	671.68	7,784.11	1,685.16	<b>10,140.94</b>
2017-18	550.73	37,651.16	985.94	<b>39,187.83</b>
2018-19	577.99	8,578.93	1,606.03	<b>10,762.95</b>
2019-20	606.60	-	-	<b>606.60</b>
2020-21	636.62	-	-	<b>636.62</b>
<b>TOTAL</b>	<b>3,043.61</b>	<b>54,014.20</b>	<b>4,277.13</b>	<b>61,334.94</b>



**South Gujarat (Motwan) Pipeline Network****Rs. in Lakhs**

<b>Year</b>	<b>PD Future Capex</b>	<b>PE Future Capex</b>	<b>O&amp;M Future Capex</b>	<b>Total Future Capex</b>
2016-17	-	37.23	12.93	<b>50.17</b>
2017-18	-	177.23	7.57	<b>184.79</b>
2018-19	-	31.98	12.33	<b>44.31</b>
<b>TOTAL</b>	-	<b>246.44</b>	<b>32.83</b>	<b>279.27</b>

**South Gujarat (Kadi-Kalol) Pipeline Network****Rs. in Lakhs**

<b>Year</b>	<b>PD Future Capex</b>	<b>PE Future Capex</b>	<b>O&amp;M Future Capex</b>	<b>Total Future Capex</b>
2016-17	-	272.37	6.70	<b>279.07</b>
2017-18	-	1,296.55	-	<b>1,296.55</b>
2018-19	-	181.28	-	<b>181.28</b>
<b>TOTAL</b>	-	<b>1,750.20</b>	<b>6.70</b>	<b>1,756.90</b>

**North Gujarat (Kalol-Ramol) Pipeline Network****Rs. in Lakhs**

<b>Year</b>	<b>PD Future Capex</b>	<b>PE Future Capex</b>	<b>O&amp;M Future Capex</b>	<b>Total Future Capex</b>
2016-17	-	35.27	9.91	<b>45.18</b>
2017-18	-	167.90	-	<b>167.90</b>
2018-19	-	28.29	-	<b>28.29</b>
<b>TOTAL</b>	-	<b>231.46</b>	<b>9.91</b>	<b>241.37</b>

**North Gujarat (Mehsana) Pipeline Network****Rs. in Lakhs**

<b>Year</b>	<b>PD Future Capex</b>	<b>PE Future Capex</b>	<b>O&amp;M Future Capex</b>	<b>Total Future Capex</b>
2016-17	-	295.88	4.34	<b>300.22</b>
2017-18	-	1,408.48	-	<b>1,408.48</b>
2018-19	-	185.11	-	<b>185.11</b>
<b>TOTAL</b>	-	<b>1,889.48</b>	<b>4.34</b>	<b>1,893.82</b>

<b>North Gujarat (Paliyad) Pipeline Network</b>				<b>Rs. in Lakhs</b>
<b>Year</b>	<b>PD Future Capex</b>	<b>PE Future Capex</b>	<b>O&amp;M Future Capex</b>	<b>Total Future Capex</b>
2016-17	-	1.96	0.04	<b>2.00</b>
2017-18	-	9.33	-	<b>9.33</b>
2018-19	-	8.31	-	<b>8.31</b>
<b>TOTAL</b>	-	<b>19.60</b>	<b>0.04</b>	<b>19.64</b>

<b>TOTAL for Seven pipelines</b>				<b>Rs. in Lakhs</b>
<b>Year</b>	<b>PD Future Capex</b>	<b>PE Future Capex</b>	<b>O&amp;M Future Capex</b>	<b>Total Future Capex</b>
2016-17	671.68	8,426.82	1,719.08	10,817.58
2017-18	550.73	40,710.64	993.51	42,254.88
2018-19	577.99	9,013.91	1,618.36	11,210.26
2019-20	606.60	-	-	606.60
2020-21	636.62	-	-	636.62
<b>TOTAL</b>	<b>3,043.61</b>	<b>58,151.38</b>	<b>4,330.95</b>	<b>65,525.94</b>

GAIL in its submission dated 15.06.2015 has submitted replacement of the Gujarat Region pipelines in phased manner. The amount proposed for replacement in Phase-I was Rs.199.95 Crores and in Phase-II Rs.344.47 Crores. Further GAIL in its submission dated 07.08.2015 has submitted purchase/work orders amounting to Rs.230.76 Crores (approx) as on date.

**O&M Capex:** GAIL in its submission dated 07.08.2015 provided O&M Capex of Rs.9.45 Crores along with supporting documents. Amount kept is proportionately distributed as per the pipeline length. Network wise distributions submitted are as under:

South Gujarat Pipeline Network-Rs.7.58 Cr.

South Gujarat (Motwan) Pipeline Network-Rs.0.06 Cr.

South Gujarat (Kadi-Kalol) Pipeline Network-Rs.0.58 Cr.

North Gujarat (Kalol-Ramol) Pipeline Network-Rs.0.85 Cr.

North Gujarat (Mehsana) Pipeline Network-Rs.0.37 Cr.

North Gujarat (Paliyad) Pipeline Network-Rs.0.00 Cr

GAIL in its submission dated 20.01.2017 has submitted supporting for Rs.39.40 Crores of O&M Capex for Gujarat Sub-Networks. GAIL has submitted O&M Capex supporting for Rs. 16.38 Cr for 16-17, Rs.9.04 Cr for 17-18 and Rs.14.00 Cr for 18-19.

iii. **Operating Expenditure (Opex):** GAIL in its tariff submission has considered opex for the entire economic life of the pipelines as follows:

<b>S. No</b>	<b>Particulars</b>	<b>Actuals from 20.11.08 FY 15-16 (Rs.in Lakh)</b>	<b>Future opex from FY 16-17 Onwards (Rs.in Lakh)</b>
1	South Gujarat Pipeline Network	18041.60	89,466.36
2	South Gujarat (Motwan) Pipeline Network	34.57	362.14
3	South Gujarat (Kadi-Kalol) Pipeline Network	473.24	3,411.22
4	North Gujarat (Kalol-Ramol) Pipeline Network	506.65	4,040.14
5	North Gujarat (Mehsana) Pipeline Network	367.50	3,110.57
6	North Gujarat (Paliyad) Pipeline Network	44.38	91.22
7	Ex-Hazira – GGCL Surat NG Pipeline	1315.17	1,142.64
	<b>TOTAL</b>	<b>20,783.12</b>	<b>101,624.30</b>

Pipeline wise and year wise actual opex considered in tariff submission and as per CA Certificate has been summarized in below mentioned table. Actual Opex considered in tariff submission for the year 2014-15 includes 7111285 Prior Period Adj- Loss/Gain on Gas Handling/Stor of Rs.2089.78 Lakh. GAIL in its tariff submission submitted two CA Certificates for Corporate opex allocation for period from Nov-08 to FY 13-14 dated 18.06.2015 and 16.09.2015 respectively. For remaining period i.e. for FY 14-15 and 15-16 one CA Certificate has been submitted GAIL.

### South Gujarat Pipeline Network

Year	Rs.in Lakhs					
	TOTAL Opex in Tariff Submission	OPEX	CA Cert. Opex	Corp. Opex*	CA Cert. 1 Corp. Opex	CA Cert. 2 Corp. Opex
01-10-08* to 31-03-09	527.41	131.93	131.93	395.48	411.77	395.48
2009-2010	1,370.07	149.41	149.41	1,220.66	1,274.94	1,220.66
2010-2011	1,141.79	173.69	173.69	968.10	1,193.33	968.10
2011-2012	897.84	215.69	215.69	682.14	634.50	682.14
2012-2013	1,701.57	265.80	265.80	1,435.77	990.65	1,435.77
2013-2014	3,937.69	2,801.67	2,801.67	1,136.02	1,108.06	1,136.02
2014-2015	3,488.33	2,356.04	2,356.04	1,132.29	1,132.20	1,132.29
2015-2016	4,976.91	2,997.21	2,997.21	1,979.70	1,979.70	1,979.70
<b>TOTAL</b>	<b>18,041.60</b>	<b>9,091.45</b>	<b>9,091.45</b>	<b>8,950.16</b>	<b>8,725.15</b>	<b>8,950.16</b>

Opex includes Unaccounted Gas Gain/Loss

\* Corporate opex from Nov-08

### South Gujarat (Motwan) Pipeline Network

Year	Rs.in Lakhs					
	TOTAL Opex in Tariff Submission	OPEX	CA Cert. Opex	Corp. Opex*	CA Cert. 1 Corp. Opex	CA Cert. 2 Corp. Opex
01-10-08* to 31-03-09	1.63	0.38	0.38	1.25	1.30	1.25
2009-2010	5.26	0.53	0.53	4.73	4.84	4.73
2010-2011	4.47	0.63	0.63	3.84	3.87	3.84
2011-2012	2.95	0.67	0.67	2.27	2.11	2.27
2012-2013	4.01	0.61	6.05	3.40	2.35	3.40
2013-2014	2.13	0.43	0.43	1.70	1.66	1.70
2014-2015	1.86	0.39	0.39	1.47	1.47	1.47
2015-2016	12.28	10.91	10.91	1.37	1.37	1.37
<b>TOTAL</b>	<b>34.57</b>	<b>14.55</b>	<b>20.00</b>	<b>20.02</b>	<b>18.97</b>	<b>20.03</b>

Opex includes Unaccounted Gas Gain/Loss

\* Corporate opex from Nov-08

**South Gujarat (Kadi-Kalol) Pipeline Network**

Year	Rs.in Lakhs					
	TOTAL Opex in Tariff Submission	OPEX	CA Cert. Opex	Corp. Opex*	CA Cert. 1 Corp. Opex	CA Cert. 2 Corp. Opex
01-10-08* to 31-03-09	19.13	4.50	4.50	14.63	15.23	14.63
2009-2010	40.59	4.07	4.07	36.52	37.39	36.62
2010-2011	39.63	5.60	5.60	34.03	34.37	34.03
2011-2012	25.68	5.87	5.87	19.81	18.43	19.81
2012-2013	50.54	7.63	7.63	42.91	29.61	42.91
2013-2014	39.09	7.96	7.96	31.14	30.37	31.14
2014-2015	37.93	8.02	8.02	29.91	29.91	29.91
2015-2016	220.66	189.94	189.94	30.72	30.72	30.72
<b>TOTAL</b>	<b>473.24</b>	<b>233.58</b>	<b>233.58</b>	<b>239.66</b>	<b>226.03</b>	<b>239.77</b>

**Opex includes Unaccounted Gas Gain/Loss**

**\* Corporate opex from Nov-08**

**North Gujarat (Kalol-Ramol) Pipeline Network**

Year	Rs.in Lakhs					
	TOTAL Opex in Tariff Submission	OPEX	CA Cert. Opex	Corp. Opex*	CA Cert. 1 Corp. Opex	CA Cert. 2 Corp. Opex
01-10-08* to 31-03-09	19.08	4.49	4.49	14.59	15.19	14.59
2009-2010	43.84	4.40	4.40	39.45	40.39	39.45
2010-2011	34.88	4.93	4.93	29.95	30.26	29.95
2011-2012	24.99	5.71	5.71	19.28	17.93	19.28
2012-2013	47.26	7.14	7.14	40.12	27.68	40.12
2013-2014	41.06	8.36	8.36	32.70	31.90	32.70
2014-2015	35.80	7.57	7.57	28.23	28.23	28.23
2015-2016	259.75	255.84	255.84	3.92	3.92	3.92
<b>TOTAL</b>	<b>506.65</b>	<b>298.42</b>	<b>298.42</b>	<b>208.24</b>	<b>195.50</b>	<b>208.24</b>

**Opex includes Unaccounted Gas Gain/Loss**

**\* Corporate opex from Nov-08**

### North Gujarat (Mehsana) Pipeline Network

Year	Rs.in Lakhs					
	TOTAL Opex in Tariff Submission	OPEX	CA Cert. Opex	Corp. Opex*	CA Cert. 1 Corp. Opex	CA Cert. 2 Corp. Opex
01-10-08* to 31-03-09	7.28	1.71	1.71	5.57	5.80	5.57
2009-2010	22.11	2.22	2.22	19.90	20.37	19.90
2010-2011	21.08	2.98	2.98	18.10	18.29	18.10
2011-2012	17.48	3.99	3.99	13.48	12.54	13.48
2012-2013	29.25	4.42	4.42	24.83	17.13	24.83
2013-2014	29.21	5.94	5.94	23.26	22.69	23.26
2014-2015	38.46	8.13	8.13	30.33	30.33	30.33
2015-2016	202.63	168.54	168.54	34.09	34.09	34.09
<b>TOTAL</b>	<b>367.50</b>	<b>197.94</b>	<b>197.94</b>	<b>169.56</b>	<b>161.24</b>	<b>169.56</b>

Opex includes Unaccounted Gas Gain/Loss

\* Corporate opex from Nov-08

### North Gujarat (Paliyad) Pipeline Network

Year	Rs.in Lakhs					
	TOTAL Opex in Tariff Submission	OPEX	CA Cert. Opex	Corp. Opex*	CA Cert. 1 Corp. Opex	CA Cert. 2 Corp. Opex
01-10-08* to 31-03-09	1.68	0.39	0.39	1.28	1.34	1.28
2009-2010	4.49	0.45	0.45	4.04	4.13	4.04
2010-2011	4.51	0.64	0.64	3.87	3.91	3.87
2011-2012	3.90	0.89	0.89	3.01	2.80	3.01
2012-2013	7.00	1.06	1.06	5.94	4.10	5.94
2013-2014	6.85	1.39	1.39	5.45	5.32	5.45
2014-2015	9.87	2.09	2.09	7.78	7.78	7.78
2015-2016	6.10	0.75	0.75	5.34	5.34	5.34
<b>TOTAL</b>	<b>44.38</b>	<b>7.66</b>	<b>7.66</b>	<b>36.72</b>	<b>34.73</b>	<b>36.71</b>

Opex includes Unaccounted Gas Gain/Loss

\* Corporate opex from Nov-08

**Ex-Hazira – GGCL Surat NG Pipeline**

Year	Rs.in Lakhs					
	TOTAL Opex in Tariff Submission	OPEX	CA Cert. Opex	Corp. Opex	CA Cert. 1 Corp. Opex	CA Cert. 2 Corp. Opex
01-10-08* to 31-03-09	69.15	31.50	31.50	37.65	39.20	37.65
2009-2010	219.10	63.21	63.21	155.89	159.63	155.89
2010-2011	182.22	64.63	64.63	117.59	118.80	117.59
2011-2012	141.10	55.38	55.38	85.71	79.93	85.71
2012-2013	214.01	58.05	58.05	155.96	107.61	155.96
2013-2014	215.09	81.36	81.36	133.73	130.44	133.73
2014-2015	196.65	75.46	75.46	121.19	121.19	121.19
2015-2016	77.84	13.46	13.46	64.38	64.38	64.38
<b>TOTAL</b>	<b>1,315.17</b>	<b>443.06</b>	<b>443.06</b>	<b>872.11</b>	<b>821.18</b>	<b>872.10</b>

Opex includes Unaccounted Gas Gain/Loss

\* Corporate opex from Nov-08

**7111285 Prior Period Adj- Loss/Gain on Gas Handing/Stor**

Particulars	2014-2015	2015-16
South Gujarat Pipeline Network	2,045.03*	389.82
South Gujarat (Motwan) Pipeline Network	-	-
South Gujarat (Kadi-Kalol) Pipeline Network	-	-
North Gujarat (Kalol-Ramol) Pipeline Network	-	-
North Gujarat (Mehsana) Pipeline Network	-	-
North Gujarat (Paliyad) Pipeline Network	-	-
Ex-Hazira – GGCL Surat NG Pipeline	-	-

\*Refer detail on earlier pages (Clause 4.4)

Future Opex considered by GAIL in its tariff submission consist of five parts:

- 1) Actual future opex (GAIL has considered annual escalation rate 4.95% annually over actual opex considered in FY 15-16 for tariff submission)
- 2) PD future opex
- 3) PE future opex
- 4) Corporate opex
- 5) O&M future opex

Pipeline wise and year wise future opex considered has been summarized in below mentioned tables

**South Gujarat Pipeline Network**

<b>Year</b>	<b>Actual future</b>	<b>PD Future</b>	<b>PE Future</b>	<b>Corporate opex</b>	<b>O&amp;M opex</b>	<b>TOTAL (Rs. in Lakh)</b>
2016-17	3,145.57	-	-	2,077.70	645.73	5,869.00
2017-18	3,301.28	57.12	-	2,180.54	1,918.32	7,457.26
2018-19	3,464.69	73.71	-	2,288.48	3,894.63	9,721.52
2019-20	3,636.20	91.81	-	2,401.76	818.69	6,948.45
2020-21	3,816.19	111.52	-	2,520.65	606.50	7,054.86
2021-22	4,005.09	132.96	-	2,645.42	503.92	7,287.38
2022-23	4,203.34	139.54	-	2,776.37	528.86	7,648.11
2023-24	4,411.41	146.45	-	2,913.80	2,015.66	9,487.31
2024-25	4,629.77	153.70	-	3,058.03	582.51	8,424.01
2025-26	4,858.94	161.30	-	3,209.40	772.23	9,001.88
2026-27	5,099.46	169.29	-	3,368.27	641.61	9,278.63
2027-28	659.82	21.90	-	435.82	170.41	1,287.95
<b>TOTAL</b>	<b>45,231.76</b>	<b>1,259.31</b>	<b>-</b>	<b>29,876.23</b>	<b>13,099.06</b>	<b>89,466.36</b>



**South Gujarat (Motwan) Pipeline Network**

<b>Year</b>	<b>Actual future</b>	<b>PD Future</b>	<b>PE Future</b>	<b>Corporate opex</b>	<b>O&amp;M opex</b>	<b>TOTAL (Rs. in Lakh)</b>
2016-17	11.45	-	-	1.44	4.96	17.84
2017-18	12.01	-	-	1.51	14.72	28.25
2018-19	12.61	-	-	1.59	29.89	44.09
2019-20	13.23	-	-	1.66	6.28	21.18
2020-21	13.89	-	-	1.75	4.66	20.29
2021-22	14.57	-	-	1.83	3.87	20.28
2022-23	15.30	-	-	1.92	4.06	21.28
2023-24	16.05	-	-	2.02	15.47	33.54
2024-25	16.85	-	-	2.12	4.47	23.44
2025-26	17.68	-	-	2.22	5.93	25.83
2026-27	18.56	-	-	2.33	4.92	25.82
2027-28	19.47	-	-	2.45	10.61	32.53
2028-29	17.14	-	-	2.16	28.48	47.77
<b>TOTAL</b>	<b>198.80</b>	<b>-</b>	<b>-</b>	<b>25.01</b>	<b>138.33</b>	<b>362.14</b>

**South Gujarat (Kadi-Kalol) Pipeline Network**

<b>Year</b>	<b>Actual future</b>	<b>PD Future</b>	<b>PE Future</b>	<b>Corporate opex</b>	<b>O&amp;M opex</b>	<b>TOTAL (Rs. in Lakh)</b>
2016-17	199.34	-	-	32.24	17.42	249.00
2017-18	209.21	-	-	33.83	-	243.04
2018-19	219.57	-	-	35.51	-	255.07
2019-20	230.44	-	-	37.26	-	267.70
2020-21	241.84	-	-	39.11	5.08	286.03
2021-22	253.81	-	-	41.05	-	294.86
2022-23	266.38	-	-	43.08	-	309.45
2023-24	279.56	-	-	45.21	-	324.77
2024-25	293.40	-	-	47.45	-	340.85
2025-26	307.92	-	-	49.80	36.99	394.71
2026-27	323.17	-	-	52.26	21.72	397.15
2027-28	41.81	-	-	6.76	-	48.58
<b>TOTAL</b>	<b>2,866.46</b>	<b>-</b>	<b>-</b>	<b>463.55</b>	<b>81.21</b>	<b>3,411.22</b>

### North Gujarat (Kalol-Ramol) Pipeline Network

<b>Year</b>	<b>Actual future</b>	<b>PD Future</b>	<b>PE Future</b>	<b>Corporate opex</b>	<b>O&amp;M opex</b>	<b>TOTAL (Rs. in Lakh)</b>
2016-17	268.50	-	-	4.11	25.77	298.38
2017-18	281.79	-	-	4.32	-	286.11
2018-19	295.74	-	-	4.53	-	300.27
2019-20	310.38	-	-	4.75	-	315.13
2020-21	325.74	-	-	4.99	7.51	338.24
2021-22	341.87	-	-	5.24	-	347.10
2022-23	358.79	-	-	5.49	-	364.28
2023-24	376.55	-	-	5.77	-	382.31
2024-25	395.19	-	-	6.05	-	401.24
2025-26	414.75	-	-	6.35	54.72	475.82
2026-27	435.28	-	-	6.67	32.13	474.07
2027-28	56.32	-	-	0.86	-	57.18
<b>TOTAL</b>	<b>3,860.88</b>	<b>-</b>	<b>-</b>	<b>59.13</b>	<b>120.13</b>	<b>4,040.14</b>

### North Gujarat (Mehsana) Pipeline Network

<b>Year</b>	<b>Actual future</b>	<b>PD Future</b>	<b>PE Future</b>	<b>Corporate opex</b>	<b>O&amp;M opex</b>	<b>TOTAL (Rs. in Lakh)</b>
2016-17	176.89	-	-	35.78	11.28	223.94
2017-18	185.64	-	-	37.55	-	223.19
2018-19	194.83	-	-	39.41	-	234.24
2019-20	204.48	-	-	41.36	-	245.83
2020-21	214.60	-	-	43.40	3.29	261.29
2021-22	225.22	-	-	45.55	-	270.77
2022-23	236.37	-	-	47.81	-	284.17
2023-24	248.07	-	-	50.17	-	298.24
2024-25	260.35	-	-	52.66	-	313.00
2025-26	273.23	-	-	55.26	23.96	352.46
2026-27	286.76	-	-	58.00	14.07	358.83
2027-28	37.10	-	-	7.50	-	44.61
<b>TOTAL</b>	<b>2,543.53</b>	<b>-</b>	<b>-</b>	<b>514.43</b>	<b>52.60</b>	<b>3,110.57</b>

**North Gujarat (Paliyad) Pipeline Network**

<b>Year</b>	<b>Actual future</b>	<b>PD Future</b>	<b>PE Future</b>	<b>Corporate opex</b>	<b>O&amp;M opex</b>	<b>TOTAL (Rs. in Lakh)</b>
2016-17	0.79	-	-	5.61	0.11	6.51
2017-18	0.83	-	-	5.89	-	6.72
2018-19	0.87	-	-	6.18	-	7.05
2019-20	0.92	-	-	6.48	-	7.40
2020-21	0.96	-	-	6.80	0.03	7.80
2021-22	1.01	-	-	7.14	-	8.15
2022-23	1.06	-	-	7.50	-	8.55
2023-24	1.11	-	-	7.87	-	8.98
2024-25	1.17	-	-	8.26	-	9.42
2025-26	1.22	-	-	8.66	0.23	10.12
2026-27	1.28	-	-	9.09	0.14	10.52
<b>TOTAL</b>	<b>11.23</b>	<b>-</b>	<b>-</b>	<b>79.48</b>	<b>0.52</b>	<b>91.22</b>

**Ex-Hazira – GGCL Surat NG Pipeline**

<b>Year</b>	<b>Actual future</b>	<b>PD Future</b>	<b>PE Future</b>	<b>Corporate opex</b>	<b>O&amp;M opex</b>	<b>TOTAL (Rs. in Lakh)</b>
2016-17	14.12	-	-	67.56	-	81.69
2017-18	14.82	-	-	70.91	-	85.73
2018-19	15.56	-	-	74.42	-	89.98
2019-20	16.33	-	-	78.10	-	94.43
2020-21	17.14	-	-	81.97	-	99.11
2021-22	17.98	-	-	86.03	-	104.01
2022-23	18.87	-	-	90.28	-	109.16
2023-24	19.81	-	-	94.75	-	114.56
2024-25	20.79	-	-	99.44	-	120.23
2025-26	21.82	-	-	104.37	-	126.19
2026-27	20.33	-	-	97.23	-	117.56
<b>TOTAL</b>	<b>197.57</b>	<b>-</b>	<b>-</b>	<b>945.07</b>	<b>-</b>	<b>1,142.64</b>

- iv. **Unaccounted Gas Gain/Loss:** In addition to the opex, GAIL has considered 0.3% of the throughput as unaccounted gas loss, as a cost to be recovered through the transportation tariff, from 20.11.2008 till the end of economic life of the pipeline as follows:

<b>S.No</b>	<b>Particulars</b>	<b>Unaccounted gas considered by GAIL (Rs. in Lakh)</b>
1	South Gujarat Pipeline Network	13,948.53
2	South Gujarat (Motwan) Pipeline Network	78.20
3	South Gujarat (Kadi-Kalol) Pipeline Network	165.96
4	North Gujarat (Kalol-Ramol) Pipeline Network	511.34
5	North Gujarat (Mehsana) Pipeline Network	229.75
6	North Gujarat (Paliyad) Pipeline Network	63.23
7	Ex-Hazira – GGCL Surat NG Pipeline	3221.96

GAIL's claim for unaccounted gas loss is based on the following arguments:

- i. Inbuilt meter inaccuracy
  - ii. Inbuilt inaccuracy of heat value calculations
  - iii. Minor leakages from flanges, safety valves etc
  - iv. Unplanned purging
  - v. Unauthorized consumption (Theft)
- v. **Volume Divisor:** The volume of natural gas being transported is considered as a divisor in the determination of the unit natural gas pipeline tariff over the economic life. The volume divisors considered by GAIL are based on the pipeline capacity used for own use, for firmed up contracted capacity with other entities and for common carrier for each year. Accordingly, the future volumes considered by GAIL from FY 16-17 onwards are as follows:

<b>S.No</b>	<b>Particulars</b>	<b>Own Requirement</b>	<b>Firm Contract</b>	<b>Common Carrier</b>	<b>Volume of NG Considered by GAIL (MMSCMD)</b>
1	South Gujarat Pipeline Network	2.5400	0.020	0.0200	2.580
2	South Gujarat (Motwan) Pipeline Network	0.0481	0.000	0.0160	0.064
3	South Gujarat (Kadi-Kalol) Pipeline Network	0.0960	0.000	0.0000	0.096
4	North Gujarat (Kalol-Ramol) Pipeline Network	0.3746	0.000	0.1249	0.4995
5	North Gujarat (Mehsana) Pipeline Network	0.1322	0.000	0.0441	0.1763
6	North Gujarat (Paliyad) Pipeline Network	0.0383	0.000	0.0128	0.0510
7	Ex-Hazira – GGCL Surat NG Pipeline	2.1825	0.000	0.7275	2.9100

The provisional capacities as per the final terms and conditions of authorization issued on 29.04.2014 by PNGRB are as follows:

<b>S.No</b>	<b>Particulars</b>	<b>Capacity in MMSCMD</b>	<b>Common Carrier in MMSCMD</b>
1	South Gujarat Pipeline Network	3.250	0.81
2	South Gujarat (Motwan) Pipeline Network	0.0855	0.02
3	South Gujarat (Kadi-Kalol) Pipeline Network	0.128	0.03
4	North Gujarat (Kalol-Ramol) Pipeline Network	0.666	0.17
5	North Gujarat (Mehsana) Pipeline Network	0.235	0.06
6	North Gujarat (Paliyad) Pipeline Network	0.068	0.02
7	Ex-Hazira – GGCL Surat NG Pipeline	3.880	0.97

- vi. **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 tariff submission has submitted weighted average heat value on net basis. Tariff is initially calculated by GAIL on the basis of net weighted average heat value and then converted into gross basis by multiplying the tariff on net basis with 0.9.

- vii. **Working Days:** GAIL, in its tariff submission, has considered 345 working days for all the seven sub-networks for revenue computation.

4.7. **Line Pack:**

Line pack is the value of gas which always remains in the pipeline and as per regulations it 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, in its tariff filing, has considered line pack of Rs. 131.05 Lakh as cash outflow in FY 2008-09. In its tariff submission, GAIL has considered line pack volume as follows:

<b>S.No</b>	<b>Particulars</b>	<b>Line Pack considered by GAIL (Rs. in Lakh)</b>
1	South Gujarat Pipeline Network	128.450
2	South Gujarat (Motwan) Pipeline Network	0.000
3	South Gujarat (Kadi-Kalol) Pipeline Network	0.210
4	North Gujarat (Kalol-Ramol) Pipeline Network	0.000
5	North Gujarat (Mehsana) Pipeline Network	0.100
6	North Gujarat (Paliyad) Pipeline Network	0.000
7	Ex-Hazira – GGCL Surat NG Pipeline	2.290
	<b>TOTAL</b>	<b>131.05</b>

Line pack is the value of gas which always remains in the pipeline and as per regulations it is to be considered as cash outflow in the initial year and as a cash inflow in the last year of the economic life of the pipeline.

#### 4.8. Terminal Value

Terminal Value is the sum of the residual value of the NFA, working capital and line pack and is cash inflow at the end of economic life of the pipeline. GAIL in its tariff submission has considered terminal value as the sum of residual value of the assets at the end of the economic life and of the line pack. The terminal value submitted is as follows:

S.No	Particulars	Terminal value (Rs. in Lakh)	Terminal Value as on
1	South Gujarat Pipeline Network	53,739.99	15.05.2027
2	South Gujarat (Motwan) Pipeline Network	210.05	31.01.2029
3	South Gujarat (Kadi-Kalol) Pipeline Network	2,020.52	15.05.2027
4	North Gujarat (Kalol-Ramol) Pipeline Network	1,006.15	15.05.2027
5	North Gujarat (Mehsana) Pipeline Network	1,536.37	15.05.2027
6	North Gujarat (Paliyad) Pipeline Network	19.16	31.03.2027
7	Ex-Hazira – GGCL Surat NG Pipeline	271.20	18.02.2027
	<b>TOTAL</b>	<b>58,803.43</b>	

Terminal value is considered as cash inflow at the end of economic life of the pipeline as per the Tariff Regulations. As economic life of the Gujarat Natural Gas Pipeline Network has been increased by 10 years upto the year 2027, terminal value is proposed to be calculated as on 15.05.2027. It is calculated as sum of the (a) residual value of Variation in the capex figures for the seven sub-networks of Gujarat Natural Gas Pipelines.

#### 4.9. **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) is as follows:

<b>Financial Year</b>	<b>2008-09, 2009-10</b>	<b>2010-11</b>	<b>2011-12, 2012-13</b>	<b>2013-14, 2014-15</b>	<b>2015-16 onwards</b>
Income Tax Rate	33.99%	33.22%	32.445%	33.99%	34.61%
Pre-tax rate of return	18.18%	17.97%	17.76%	18.18%	18.35%

#### 4.10. **Zonal Apportionment**

The Gujarat Natural Gas Pipeline network has seven sub-networks. Six sub-networks are of length less than 300 kms, hence zonal tariff apportionment for these sub-networks is not required. One sub-network i.e., Baroda sub-network is of 480.99 Kms. GAIL (vide its communication dated 25.09.2014 has furnished the details of the distance between the injection and exit points and the length of these is less than 300 kms. Accordingly, none of the seven sub-network of Gujarat Natural Gas Pipeline Network of GAIL has more than one tariff zone, hence separate apportionment of the levelized tariffs over tariff zones is not required to be undertaken.



**5. Views of stakeholders sought**

- 5.1. Determination of the final initial unit natural gas pipeline tariff is a time bound exercise. PNGRB solicits the views in writing of stakeholders on GAIL's tariff filing for the Gujarat Natural Gas Pipeline Network of GAIL within 15 days of the issue of this document at the following address:

*Secretary,  
Petroleum and Natural Gas Regulatory Board,  
1<sup>st</sup> Floor, World Trade Centre,  
Babar Road, New Delhi 110001.*

(Vandana Sharma)  
Secretary  
For and on behalf of the Board