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Unified Tariff Regime for gas pipelines: Consumers located far away from gas sources to benefit, even while implementation challenges will remain

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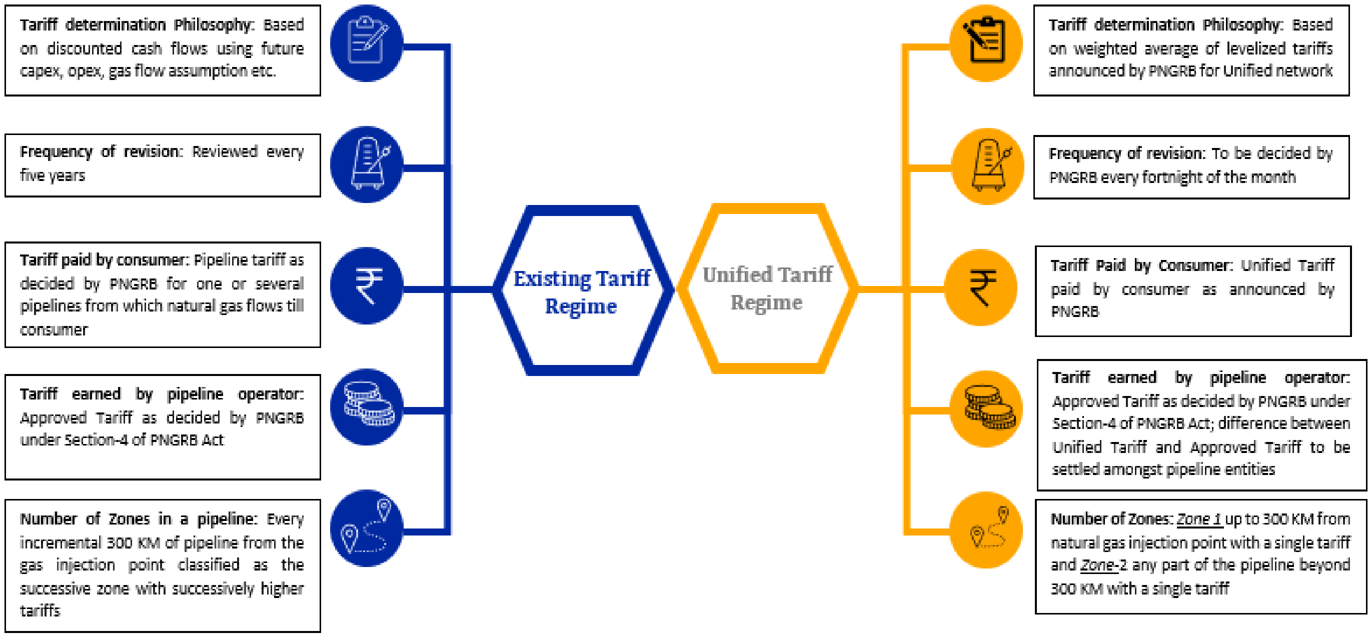
Draft regulations for Unified Tariff for Natural gas pipelines released

After several rounds of proposals, stakeholder comments and discussions held by the Petroleum and Natural Gas Regulatory Board, India (PNGRB), the board has released the draft regulations (link here) pertaining to the determination and implementation of the Unified Tariff for the Natural Gas Grid system on September 29, 2020. The board has sought comments on the draft regulations from various stakeholders by October 20, 2020 and will be hosting an Open House Meeting on October 23, 2020 to discuss the views and suggestions of various stake holders.

Exhibit 1: Comparison between existing transmission tariff regime and transmission tariffs under Unified Tariff regime



Source: PNGRB, ICRA research

Unified Tariff being implemented to remove distance-based distortion in natural gas pricing

The transmission tariffs are regulated by the PNGRB for the natural gas pipelines in India and are based on a normative return of 12% on capital employed (RoCE). The transmission tariffs undergo periodic review and are apportioned along the length of pipeline as per the zonal classification. Each zone comprises of 300 KM of length with first zone starting from point of injection of the natural gas i.e. Zone-1 includes first 300 KM of the NG pipeline excluding the spur lines and thereafter every 300 KM forms the successive zone. The transmission tariff for successive zones are higher than the previous as per the regulations. As a result, consumers located far away from the source of natural gas for the pipeline tend to pay more as transmission charges than consumers located closer to the natural gas source. With distance-based tariff being charged, natural gas consumers located away from the natural gas sources were at an inherent advantage in terms of higher input costs even though they might be located closer to the end user market e.g. fertiliser plants located in the state of Uttar Pradesh have to pay higher transmission tariff vis-à-vis fertiliser players located in Gujarat or Rajasthan. Partly due to the

Exhibit 2: List of natural gas pipelines under the Integrated Pipeline Network for calculation of Unified Tariff

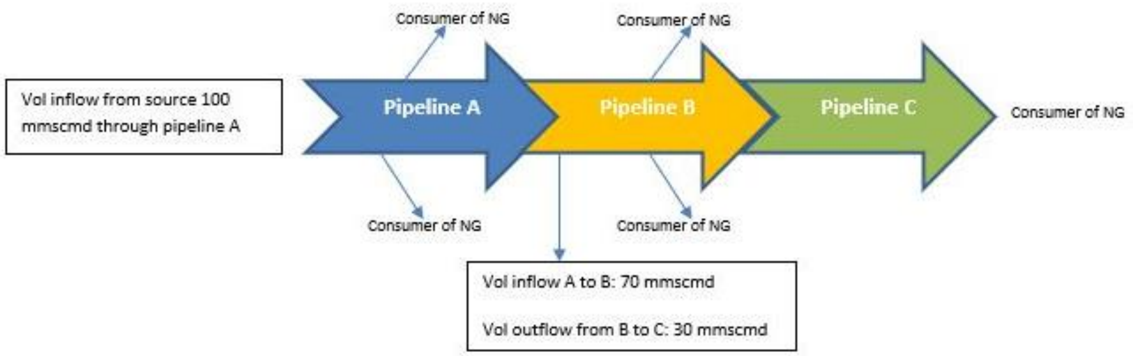
Pipeline Name	Pipeline Operator	Current Tariff, Rs. /mmbtu*	Unified Tariff, Rs. /mmbtu
Integrated Hazira Vijaipur Jagdishpur Pipeline	GAIL (India) Limited	19.83, 36.86, 45.38, 49.64	51.84
Dahej-Uran Dabhol Panvel NG Pipeline		29.55, 39.85	51.84
Dahej-Vijaipur (DVPL)-Vijaipur Dadri (GREP) (Capacity augmentation)			51.84
Jagdishpur-Bokaro-Haldia-Dhamra NG Pipeline		63.46	51.84
Dadri-Bawana-Nangal NG Pipeline		14.04, 14.06	51.84
Chainsa-Jhajjjar-Hissar NG Pipeline		7.85	56.84
Dabhol-Bangalore NG pipeline		45.37, 45.41, 45.44	51.84
Dadri Panipat NG Pipeline	Indian Oil Corporation Limited	16.46	51.84
East-West Pipeline	Pipeline Infrastructure Limited	65.50, 75.33, 78.65, 79.77, 80.15	51.84
GSPL's High Pressure Gujarat Gas Grid	Gujarat State Petronet Limited	33.15, 34.84, 34.86	51.84
Shahdol-Phulpur	Reliance Gas Pipelines limited	96.33	51.84
Mehsana-Bhatinda	GSPL India Gasnet limited	0.90, 41.39	51.84
Bhatinda-Jammu-Srinagar		NA	51.84
Mallavaram-Bhopal-Bhilwara-Vijaipur	GSPL India Transco Limited	NA	51.84

*Source: PNGRB, ICRA research; * Multiple tariffs indicate zone-wise tariff; NA: Pipeline tariffs not applicable as pipelines not yet commissioned* distance linked transmission tariffs, most of the natural gas consuming industries developed in the state of Gujarat and Maharashtra which are closest states to natural gas sources both produced gas and imported Liquified Natural Gas (LNG) terminals. With the entire natural gas production and supply infrastructure like LNG terminals located on west coast, the cost of transmitting natural gas to a consumer on the East coast would be prohibitively higher resulting in making the producer uncompetitive against a similar producer located on west coast or nearer to the source of natural gas. For consumers, receiving gas after flowing through multiple pipelines had to pay additive tariff which resulted in material outflow on account of the transmission tariffs. Thus, in order to resolve this issue of distance related dislocation in the pricing of natural gas, Unified Tariff for all the consumers connected to the natural gas grid was proposed. A single transmission tariff across the entire natural gas grid would mean that the location of the natural gas consuming center will be independent of the considerations for transmission tariffs. With the consumer paying a single tariff for zone-1 and thereafter for Zone-2 irrespective of the number of different pipelines comprising Zone-2 will result in savings for far off located consumers.

Unified tariff to be determined by pooling of the already Approved tariffs by PNGRB

PNGRB has been trying to formulate the methodology for determining the single tariff to be charged to all consumers connected to the Integrated Natural Gas network and there have been multiple iterations in the process. In the latest draft regulations, PNGRB has proposed a simplified approach for determining the unified tariff. In the proposed approach, pooling of the approved zonal transmission tariffs (in Rs/mmbtu excluding taxes and other statutory levies) weighted by the actual volumes flow along with ship or pay volumes (in MMBTU) for all the pipelines forming part of the integrated network will determine the unified tariff to be charged to the consumers. The Unified tariff will be determined by the PNGRB for each calendar fortnight i.e. period beginning from first of every month and ending on fifteenth of the same month or a period commencing from sixteenth of every month and ending on the last day of the such month. While considering the gas flow, PNGRB will ensure gas flow through a pipeline is considered only once e.g.

Exhibit 3: Illustration for calculating divisor for determining Unified Tariff as per PNGRB's draft regulation



mmscmd	Total gas volume flow (p)	Upstream Volume inflow (q)	Downstream volume outflow (r)	Single pipeline flow (s=p-q-r)
Pipeline A	100	0	70	30
Pipeline B	70	70	30	-30
Pipeline C	30	30	0	0
Sum	**200**	**100**	**100**	**0**
	Divisor =sum(q)+sum(s)=100+0=100			

Source: PNGRB, ICRA research

the gas flow of 1.06 mmscmd in FY2020 through the Integrated Hazira Vijaipur Jagdishpur (HVJ) pipeline feeding into the Hisar Chhainsa pipeline is considered only once while calculating the Unified Tariff.

The steps for deriving the Unified Tariff is as follows:

1. All pipeline operators will provide the tariff zone wise actual natural gas volume flow and ship or pay volumes in MMBTU and mmscmd for the previous fortnight within two days of the beginning of the fortnight
2. Approved Zonal Tariff for each pipeline to be multiplied with the actual volume flow and ship or pay liabilities through the tariff zone. These products for all the tariff zones in the natural gas grid for which the unified tariff is being calculated will be summed.
3. Thereafter the summation determined in step-2 will be divided by total quantity of gas transported including ship or pay volumes in MMBTU during that fortnight. The total quantity of natural gas transported will be determined in a manner to avoid repeat counting of the same natural gas flow.
    a. In order to determine the volume of natural gas flowing in the network, for each pipeline the volume inflow from the upstream pipeline if any and volume outflow to downstream pipeline if any will be subtracted from the total volume flow through the pipeline during the fortnight to get the single pipeline flow
    b. Thereafter a summation of the all the single pipeline flows and upstream pipeline flows will be taken as the total volume flowing through the natural gas grid during the fortnight and will be used to divide the summation in step a.

PNGRB in its draft regulations has used the natural gas volume flow data for FY2020 for illustrative purpose wherein the Unified Tariff determined by the board is around Rs. 51.8/mmbtu. The transmission tariff so determined will be applicable for a fortnight and will be revised as per the data furnished by the pipeline operators every fortnight.

Implementation of Unified Tariff Regime to be revenue neutral for gas pipeline operators; customers located far off to benefit

The Unified Tariff regime proposed by PNGRB will be revenue neutral for the natural gas pipeline operators while it will lead to change in transmission tariff for the consumers. As per the draft regulation, the NG pipeline operators (specified as invoicing entity) will charge the shipper of the natural gas the Unified Tariff as declared by the PNGRB although the revenue entitlement will be equal to the revenue that the pipeline operator is entitled to on the basis of the approved zonal tariffs and the actual volumes shipped including ship or pay volumes. As a result, some of the pipeline operators will invoice amount higher than the revenue they are entitled to and will have to compensate the pipeline operators who will be invoicing the shipper at lower than the approved tariff. While the change in the tariff regime remains revenue neutral for the pipeline operators, the capacity utilisation for pipelines , wherein the Unified Tariff would be lower than the approved tariff, may witness an uptick as gas offtake could rise with lower transmission tariffs.

One of the key concerns for the consumers with the current tariff regime has been, the additive nature of the tariffs being charge. Under the current tariff regime if the natural gas received by a consumer flows through different pipelines, the tariff is charged on the entire volume for all the pipelines and thus lead to higher tariff. For example, if a consumer receives ~10 MMBTU of natural gas that flows through two pipelines A and B with transmission tariff of Rs. 10/mmbtu and Rs. 12/mmbtu, the total transmission charges to be paid by the consumer will be Rs. 100+ Rs. 120 = Rs. 220. However as the per the Unified tariff Regime, the Unified Tariff should be revenue neutral for the gas pipeline operator, the customer would pay a Unified Tariff of Rs. 22/mmbtu as per the methodology. Thus while the consumers will be paying a single tariff , the additive nature of tariffs will still be part of the inherent structure and thus the current methodology only redistributes the additive tariffs being paid by far off players over the entire unified tariff being paid by all the consumers.

Since the gas pipeline operators will continue to receive revenue on the basis of the approved tariffs by PNGRB, the return metrics of the incumbent operators will remain stable. However, long pending issues in terms of under recovery of fixed costs and lower than normative RoCE will remain due to disallowances of several cost items and differences in operational assumptions between the operator and regulators.

Unified Tariff implementation to result in cross subsidization of transmission tariff paid by consumers located away from gas sources by the consumers near the source of natural gas

The Unified Tariff if implemented in its current form will lead to lower transmission tariff for the gas flowing through the East-West NG pipeline which transports gas from the Krishna Godavari (KG) basin. While the current production from the KG basin remains significantly low, the production is expected to rise in the next three to four years driven by expected increase in natural gas production from ONGC's KG-DWN-98/2 and RIL-BP JV. The transmission tariff for Shahdol-Phulpur pipeline will also come down sharply supporting offtake from the pipeline. The transmission tariff for the upcoming Jagdishpur-Haldia-Bokaro-Dhamra pipeline (JHBDPL) popularly known as Urja Ganga will also come down for the consumers from Rs. 63.46/mmbtu to Rs. 51.84/mmbtu. For users earlier paying additive tariffs e.g. consumers receiving gas through Urja ganga pipeline for which HVJ pipeline remains the sole source of gas supply would have paid tariff for both pipelines i.e. Rs. 49.64/mmbtu and Rs. 63.46/mmbtu. However, with the proposed unified tariff regime, the unified tariff will come down by nearly 50% to Rs. 51.8/mmbtu resulting in significantly lower costs for the consumers located away from the gas source. With lower transmission tariffs, the pipeline capacity utilisation should witness uptick as the cost of natural gas will moderate for the consumers connected to this pipeline. Three urea plants and the several CGD projects setup along the pipeline stand to benefit from the lowering of the transmission tariffs. <u>While earlier far off customers were paying additive tariffs, the burden of the same has been redistributed across all the consumers as part of the Unified Tariff, thus further reducing the overall transmission tariff being paid by the players located away from the source of natural gas. Thus, there could be potential litigations by the adversely impacted industrial units, which is a key monitorable.</u>

Several operational guidelines remain unattended in the draft regulations

While PNGRB may have released the draft regulations for determining Unified Tariff several operational guidelines are yet to be clarified. The regulations target to maintain revenue neutrality between the pipeline operators i.e. the revenue earned by the gas pipeline operator should remain unchanged post implementation of the Unified tariff regime. Players earning more/less than the revenue as per the approved pipeline tariffs will pay to/receive from other players. The regulations mention the settlement to happen between the entities but is silent on the mode through which settlement will be made. The operational issues of the entities engaging with each other for the settlement may lead to delays in settlements, disagreements on settlement amounts etc. Additionally, there may be taxation related issues resulting in disagreements between amounts to be received or paid by entities, given the fact that natural gas sales are outside GST regime, while pipeline tariffs come under GST. Thus, PNGRB will have to come up with detailed guidelines on operationalization of the Unified tariff regime in a smooth manner.

Unified Tariff Regime a right step in promoting gas-based economy; several other steps remain to increase offtake of natural gas

While moving towards a Unified Tariff Regime is a positive step towards increasing the share of natural gas in the overall energy mix of the country, several other steps will have to be implemented till we see a meaningful uptick in natural gas consumption in the country. Some of the reforms that have been long pending include the pricing deregulation of natural gas in the country, inclusion of natural gas under the Goods and Services Tax (GST), development of integrated pipeline network and development of an integrated gas trading hub/exchange are some of the reforms GoI will have to undertake to make any meaningful impact on natural gas offtake in the country. Some of the other step that have also remained under consideration include unbundling of the marketing and transmission business of GAIL (India) Limited and an independent system operator for pipelines. However, the movement on these issues has been very slow and any material uptick in the natural gas offtake will be contingent on resolution of these issues by the regulator and the GoI.

Impact on major consumers:

Fertiliser sector expected to remain unaffected by the implementation of Unified Tariff

Fertiliser sector is expected to remain unaffected by the implementation of the Unified Tariff for the natural gas pipelines owing to the gas costs being a pass through to GoI as part of subsidy. Thus, any change in the tariffs will remain a pass through for the players and the sector will remain neutral to the change. While in the past GoI had not approved certain components of gas costs for subsidy payout e.g. marketing margins charged by Reliance industries on the sale of natural gas from the KG-D6 basin leading to increase in cost for urea players, the change in the transmission tariffs is expected to be considered as part of the subsidy payout. Thus, overall, the fertiliser industry is expected to remain un-affected by the change in the tariff regime.

Most existing CGD players to see an increase in delivered cost, but should be able to pass on most of the increase to consumers

CGD players would be affected by the Unified Tariff depending on their location and the source of their imported and domestic gas. Players based in Gujarat would see the cost of their delivered R-LNG and domestic gas increase on account of higher rates charged for usage of GSPL's network. The increase in tariff could be as high as 50% (Rs 31-35/mmbtu vs Rs 51.94/mmbtu). CGD players may be able to pass on this increase to their CNG and PNG (domestic) customers easily, however, in the PNG (industrial) segment, given the high competition from alternate fuels, they may not be able to pass on the entire increase in cost. CGD Players in the northern region are likely to gain marginally on tariff costs with the implementation of a unified tariff. Newly authorised players setting up networks around the Jagdishpur-Bokaro-Haldia-Dhamra (Urja Ganga) pipeline in the north/north east and around the EWPL during recent bidding rounds will benefit from the lower cost and increased competitiveness against competing fuels in all segments going forward.

With the pass through mechanism in the PPAs, gas based power plants to remain unaffected though discoms may witness marginal increase in the power purchase cost

The impact of unified tariff regime on gas-based power generating companies would depend on the location of the plant, sources of gas supply and pipeline network involved. The power generation projects located closer to the west coast are likely to witness an increase in pipeline tariff. On the other hand, the projects in the northern region are likely to witness a mixed trend, depending on the connected pipeline network. With respect to the gas-based capacity in the southern region, most of the projects remain stranded given the lack of domestic natural gas supply, inadequate LNG terminal capacity for using imported gas on the east coast as well as the relatively high cost of generation using imported gas. Therefore, there would not be any immediate impact of the new regime on these projects. For any increase or decrease of Rs. 10 per mmbtu in the pipeline tariff, the variable cost of generation for the gas-based power projects is expected to vary by 8-9 paise per unit. Given the cost-plus nature of the PPAs tied-up by the gas-based power projects, any increase or decrease in transportation cost is expected to be passed on to the customers, mainly the state distribution utilities (discoms). However, the impact on the cost structure of the discoms at all India level is likely to remain low, considering that the contribution of gas-based power generation to all India electricity generation remains low at ~3.5%-4.0%.

Conclusion

The Unified Tariff Regime being proposed by PNGRB will be based on pooling of the approved tariffs and the actual volume flow through the natural gas pipeline while maintaining revenue neutrality for the gas pipeline operators. While the intent of reducing the transmission tariff for the far off players may be met through the regulations several other issues like solving the additive nature of the transmission tariff being paid by the consumers currently continues to remain although the cost has been distributed among the gas consumers resulting in lowering of the burden of the same on players located far away from gas sources. The Unified Tariff if implemented will be positive for the consumers located away from the natural gas sources as their transmission costs will be cross subsidized by the consumers located near to the natural gas sources. With the transmission charges being paid by the consumers along the Urja Ganga pipeline and the East-West pipeline set to decline, the consumers along the pipelines should benefit from lower transmission tariff. With transmission charges expected to decline for natural gas consumers located away from the gas sources, the offtake of gas could rise in such pipelines resulting in higher capacity utilisation and more even distribution of gas consumers across the country.

Corrigendum: Link to an erroneous reference was removed on Page- 5

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