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Guidelines to Third Party Access (TPA) Code For Natural Gas Pipelines

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Objectives

- To achieve the lowest possible sustainable gas prices for consumers through competition
- To maximize customer choice
- To provide a more efficient industry and encourage efficient investment

Objectives

- To provide a framework for an effective sustainable energy market integrating gas, electricity and other energy products so that customers can better manage their energy purchases

- To Ensure regulatory environment that provides consumers with the best protection in terms of prices , service and safety standards

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Objectives

- To ensure the long-term security supply
- To encourage long –term security of supply
- To reduce public sector debt burden

Natural Monopoly In Gas Transmission

- **The Natural monopoly in gas transmission will have a entrust a state owned enterprise to own , operate and maintain Principal transmission system**
- **This will facilitate efficient operation of the system**
- **The wholesale market will allow system participants to trade efficiently in gas so as to maintain balance and maximize their commercial opportunities**

Standard Model Of Access

- ***Two models will be discussed in my presentation***
- **Market Carriage Transportation Model**
- **Contract Carriage Model**

Market Carriage Transportation Model

- Tanzania has to decide whether it starts with a single zone model or adopt multi Zone model straightaway
- In an infant industry it is advisable to start with a single zone market carriage transportation model
- The principal transmission grid in both one zone and multi –zone models operates pursuant to a “ market carriage” form of transportation

Market Carriage Transportation Model

- **Parties wishing to ship gas on the system will not require committing a certain amount of capacity and sign a corresponding contract**
- **Parties pays a use of system charge that will be based on the user's actual usage of the system**
- **Charges for consumers , which are to manage and vary their loads will be based on the amount of gas transported**

Market Carriage Transportation Model

- The share of the system peak can be accounted for by the user on the peak days
- Charges for all other users will be based on volume of gas transported through out the year with no peak component
- All consumers will pay an injection charge on their usage on the peak injection days

Market Carriage Transportation Model

- **In the event of Principal Transportation System is unconstrained charges will be based on actual volume of gas transported through principal Transportation system**

- **On days of transmission system constraint , retailers may be liable for further sums depending on the extent to which their customers usage of the system.**

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Market Carriage Transportation Model

- In the initial one –zone model the right will be defined by an allocation of " authorized MDQ"
- On the days of constraint Principal System Operator will solve constraint using the cheapest available options
- When a new user will seek access to the Principal Transmission system it will require approval of the regulator .

Market Carriage Transportation Model

- ***When a new user will seek access to the Principal Transmission system it will require approval of the regulator***
- ***If there is available capacity , the new user will get allocation on "Authorized MDQ"***
- ***If not they can still get an access but without " Authorized MDQ"***

Contract Carriage Model

- A system which utilizes " take or pay" component
- Works well where users are sure of using the contracted capacity
- This is relevant when they have "captive customers "or where the services or commodity is easy to sell in secondary markets

Contract Carriage Model

- Domestic Consumers are unable to shop around for their gas supply
- They provide the stable customer base for retailers
- As market matures towards greater competition , individual shippers have less security and less confidence of making sales although future physical flows through pipelines are not uncertain.

Contract Carriage Model

- Traditional Contract carriage model undermines the effectiveness of the spot market
- Contract carriage model requires capacity booked between specific injection and delivery points
- Where gas is available from multiple sources this requirement would reduce the commercial flexibility of market participants

Tariff Setting Approach

- **Australian Pipelines have adopted a three stage approach**
- **Step 1 Setting Target Revenue : Allows Operator earn a reasonable ROR on the value of existing assets along with new assets that is expected to be required to meet forecasted growth in service utilization**

Tariff Setting Approach

:

- A tariff methodology is used to set tariff for each tariffed transmission service and at each location on the system

at forecasted demand , operator will recover targeted revenue for year One

users contribute an appropriate share of the cost of the assets and services used in providing the services

Tariff Setting Approach

- **Step 3 Setting Formula for tariff and revenue adjustment from year to year :**
- **Formula are set out in the Tariff order which govern the average tariff revenue from tariffed transmission services that can be recovered in subsequent years**
- **This is based on average revenue achieved in previous years and also the maximum amount that individual tariffs can be adjusted from one year to next year.**

Target Revenue

- Set at a level that allows TPA earn a reasonable ROR on assets in delivering tariffed transmission services
- TR = AV* WACC +D +OC +NWC *WACC
- TR= Targeted Revenue
- AV= Asset Value- total value of assets employed
- WACC = Weighted average cost of capital
- D= Depreciation
- OC = Operating cost
- NWC = Net working capital

Targeted Revenue

- **TR has the following important components in calculation**
- **Valuation of existing system assets**
- **Valuation of non-system assets**
- **New assets**
- **Rate of Return**
- **Return methodology**
- **Operational Cost**
- **Net Working Capital**

Cost Allocation and Tariff Setting

- A cost of service model is to be adopted and tariff is to be designed in a way that ensures recovering the targeted revenue
- Three stages how the calculation of tariff:
- Tariff Sequencing : Transmission injection service , transmission delivery service and matched flows
- TR for each service is further allocated between revenues that to be recovered at peak only (capacity –driven cost) and recovered throughout the year (Commodity driven cost)
- The forecast levels of utilization of each service , the total revenue is converted to a $/GJ tariff in a way that if the overturn is in accordance with forecast the overall TR is recovered.

Pricing Principles and Approach for Tariffed Services

- **In Victoria Australia pricing principles is consistent with Victorian Access code:**

 # Recover the efficient costs of providing service

 # Replicate the outcome of competitive market

 # Ensure safe and reliable pipeline operation

 # Not distort upstream or downstream pipeline investment decisions

 # Be efficient in level and structure

 # Provide incentives to Service Provider for cost efficiency and market development

Pricing Principles

- **Pricing principles also cover**

 # Cost Reflectivity
 # Efficient pricing signals
 # Recovery of allowed revenue
 # Price Stability

- **Pricing Approach identifies the cost categories**
- **Injection cost and delivery cost**
- **Location cost and common cost s**
- **Peak capacity driven cost and anytime commodity driven cost**

Cost Allocation

- Sometime a methodology is used to calculate volume- distance delivery point cost
- The costs are derived from the transmission network target revenue (Capital Cost and O& M cost)
- The actual reference tariffs are set zonally
- **The peak demand tariff is paid by Tariff D (Demand –metered) consumers and the peak volume tariff is paid by tariff V (volume metered) consumers**

Tariff Pricing and Structure

- **Zoning** :

The zoning tariff is defined on the basis of specific delivery points

- **Levelization :**

In Victoria Australia Levelisation process involves taking the allocated zonal cost for each five years of the Tariff Order period and calculating a NPV at ist Gregorian calendar day .

Tariff Charging

- **Charging Basis** : **Peak Charge and Anytime delivery charge**
- **Matched Injections** :**Where gas is injected upstream from the hub that can be shown to be supplying a customer which is connected to a delivery point on the same pipeline radial also upstream from the hub . The relevant retailer is entitled to a lower injection tariff**

Tariff Charging

- **Matched Delivery :**

Where gas is injected downstream from the hub that can be shown to be supplying a customer which is connected to a delivery point on the same pipeline radial also downstream from the hub . The relevant retailer is entitled to a lower delivery tariff .

Metering and Settlement :

Charges will be based on the allocation between the retailers of the metered daily quantities at the custody transfer meters (“ CTM) at delivery points and injection points .The allocation is done as part of gas settlement process

Tariff Path and Incentive Structure

- **Regulatory Revenue Control:**
- **Encourage use of gas where it is commercially efficient to do so**
- **Develop a competitive market at all levels of the gas industry , where this is possible**
- **Design regulatory structure in monopoly areas that protects customers against monopolistic exploitation and at the same time provide incentives to the owners of monopoly assets to use them efficiently for the benefit of the market**

Regulatory Revenue Control

- Prevent a party , at any level , from acting to prevent the emergence of competitive forces at its own or any other ,level
- Protect the interests of customers of gas who have expectations of the gas industry by reasons of its past pricing behavior

Options For Regulatory Control

- **Revenue Cap** : **This option is insufficiently flexible and may not provide appropriate incentives to increase assets efficiency**
- **A Price Cap: May also not be appropriate for its inappropriate level of reliance on initial forecast of cost drivers and tariff recovery bases and may not create flexibility for pricing innovation**

Options For Regulatory Control

- **An average Revenue Yield : This is recommended option as**
- **It is both simple and transparent**
- **The incentive effect of an average revenue yield on delivered volume .Loss of volume carries an equally strong penalty**

Questions