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Gas Transportation Designing & Determining Tariffs

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Introduction

- Tariff distinct from gas price - for transportation, storage, connectivity; significant part of final price
- Why regulate tariffs – network monopoly – economies of scale and scope. Sometimes, interstate pipeline tariffs are negotiated
- What is regulated? – interstate transmission, local area distribution, storage, and occasionally, gas price for small retail consumers may be capped
- Distribution tariffs of investor-owned utilities are regulated while those of municipal utilities are not.
- Regulated tariffs are ceilings; transporter can charge less. Periodic review
- Secondary markets in transmission possible – also under regulatory purview
- Setting tariffs is the art of the possible - minimum threshold objectives to be fulfilled, but need not always be optimal
- Setting tariffs is the art of finding the acceptable
- Setting tariffs is a dynamic exercise



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Principles Governing Tariffs

- National policy objectives define regulatory objectives
- Cost recovery, including safety and env costs
- Meeting regulatory obligations such as open access, technical standards, safety codes, QoS
- Incentivising efficient pipeline usage
- Incentivising capacity expansion to keep up with demand
- Consumer interest
- Simplicity and transparency
- Non-discriminatory
- Political acceptance
- Stability and flexibility



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Tariff Models

- Rate of return – widely used for distribution
- Incentive regulation
- Hybrid models
- Average cost (simplicity & transparency) vs Marginal cost (efficiency, but requires future modelling)



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Tariff Design – Cost Allocation

- Two-part tariff
- Cost drivers : average or marginal cost, pressure, load pattern or time of day usage requiring balancing, metering equipment and availability of data
- Postage Stamp/Distance-based
- Zonal or License Plate tariff
- Entry-Exit
- Existing vs New Facilities
- Expansion of capacity – how to determine tariffs



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Tariff Design: Postage Stamp

- Widely used in infant industries
- Simplicity – calculated as average based on number of units transmitted
- Balanced regional development
- Does not send congestion signals, not cost-reflective
- Discriminates against short-distance transportation



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Tariff Design: Distance-based Tariffs

- Also simple. Useful when gas moves in one direction
- Encourages swaps
- Not cost-reflective. Can choke systems when huge quantities of gas moves between two short points



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Tariff Design: Zonal Tariffs

- Simpler than entry-exit model; postage stamp rates within a zone
- Dividing the pipeline into zones, incremental tariffs for zones further away from source
- Reverse flow creates complications?



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Tariff Design: Entry-Exit

- Suitable for mature markets and spider web systems – facilitates a balancing point
- Tariffs reflect congestion factor – each entry exit is priced separately
- Different weights for entry and exit
- Capacity & actual transportation charges separate
- Firm and interruptible charges



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Advantages of Entry Exit

- Cost reflective – avoids cross-subsidies
- Equitable and transparent
- Efficient utilisation of network
- Flexibility to trade commodity as well as capacity



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Tariff Determination Process

- Utility initiates tariff/tariff review process by filing an application with regulator; fee payable
- Commercial information confidential?
- Synopsis of proposal posted on regulator's website inviting comments/suggestions from stakeholders
- Published in newspapers for wider participation?
- Hearing of stakeholders
- Internal review of proposal and objections by regulator
- Final tariff approved and notified by regulator
- Review after specified period; fixed rate between reviews except for trackers and riders, taxes; regulatory lag can cut both ways



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Regulatory Requirements for Tariff Determination

- Access to books of accounts of regulated entities
- Auditing requirements
- Expert resources to evaluate
- Transparency – public hearings, speaking orders
- Ex-parte communication rules
- Third party participating in tariff hearings
- Powers of enforcement of regulated tariff
- Provision for review by appeals courts
- Legislative oversight



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Tariff Determination - RoR

- Rate Base – Level of capital investments
- RoR – Allowed rate of return (policy?)
- Level of Operating Costs – includes taxes, depreciation, admn costs, overheads
- Capacity of pipeline
- Load Factor
- Steady vs interruptible throughput
- Rate design
- Take or Pay



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Benchmarking

- Information asymmetry
- Test Year
- International best practices
- Determining prudence
- Checking gold-plating
- Flexibility to tweak rates



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Tariff Determination – Price/Rev Cap

- Also known as incentive regulation
- Conducive to efficiency
- Revenue cap vs price cap
- Stage of gas market development
- How to reconcile entity's and consumer interests?
- How to determine X factor? – No silver bullet



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- Thank You