



University of Petroleum & Energy Studies (UPES)

Response to

“Concept Paper on unbundling of
activities of transportation and
marketing of natural gas”

by

PNGRB

(Notice dated 11 Sep 2012)

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Introduction

UPES is India's first energy and core Sector University offering unique bouquet of domain focused programmes. It offers 47 specialized programmes through its 3 constituent colleges – college of Management and economic studies, college of legal studies and college of engineering studies. UPES has a world class campus spread over 30 picturesque acres at Dehradun, Uttarakhand with 5000 students, 250 plus dedicated faculty and 100 plus visiting faculty. UPES is a UGC approved university with NAAC accreditation. The energy courses of UPES are accredited by Energy Institute, UK. It is also recognized by Department of Scientific and Industrial Research, India. For further information please visit www.upes.ac.in

In order to promote clarity, simplicity and brevity the comments shall be provided using the existing structure within the Unbundling Paper.

COMMENTS ON PAPER

Existing provision

Section 1 of the Unbundling paper highlights that under the PNGRB Act, 2006 provision has already been made for full separation of the activities of gas transportation and marketing, including ownership separation. Whilst this is indeed true, it is important for the Board to be aware that any move to full ownership unbundling will require at least additional regulations and possibly additional legislation to cover a number of issues that arise as a result of unbundling, including the following:

Legacy issues – For example where there are existing long-term gas sales contracts that provide a bundled sales and transportation service.

The process for providing new capacity – A new methodology needs to be developed that facilitates the provision of capacity in the new environment. Typically this will include some form of open season or capacity auctions.

Information asymmetry – The incumbent monopoly will typically have access to detailed market information that new market entrants do not have, therefore even after unbundling has taken place both the transportation and marketing business will potentially have unfair commercial advantages over their competitors.

Security of gas supply – Where formerly gas supply security has typically been the responsibility of the incumbent monopoly supply and transportation business, the process of unbundling can lead to uncertainty as to which parties are responsible for which elements of gas supply security. These roles, and the associated obligations and tools and processes need to be considered in detail.

Additional services – Suppliers operating in a competitive gas market typically require a range of additional services beyond simple transportation, such as gas storage, parking and loaning, gas or capacity trading, in order to enable them to modulate supply to meet their customers' demand. In the process of unbundling it is important to consider how the infrastructure that could be used to provide these services is made available to the market, particularly as there may be competing demands for such infrastructure to provide flexibility to the transportation system operator.

Also whilst the current legislation requires both the transportation and marketing entities to operate at an arm's length basis in accordance with an 'affiliate code of conduct', in practice such codes of practice are commonly breached. The potential for either accidental or intentional breaches of these agreements is too great.

In addition in terms of the 'Policy of the Central Government', there is a recognition that fully integrated transportation and marketing businesses are likely to operate against the interests of consumers, however, what seems unclear is how far the Government are prepared to go in the application of unbundling strategies. If the Government and the PNGRB want to introduce a fully competitive gas market then the following points should be noted.

- Legislation is never enough - Almost without exception, where countries or regions have sought to develop gas-to-gas competition in their respective markets, legislation in isolation has never been able to produce the desired results. For example, in the UK, legislation was actually in place in 1982 under the 1982 Oil and Gas (Enterprise) Act that allowed third party access to the pipeline network, but competition did not start until 1990 some eight years later and as a result of legislative, regulatory and political pressure.

- Market structure also needs to change – Such is the power of dominant incumbent monopolies that fully competitive gas markets can only emerge if the actual structure of the gas market is changed.
- There needs to be a strong regulatory and political will – The introduction of gas-to-gas competition and the unbundling of incumbent monopolies is rarely popular with the existing integrated transportation and marketing entities. Therefore, it is important that the Board recognises the need for a co-ordinated legislative, regulatory and political approach to the unbundling of transportation and marketing.

Why Unbundling?

This section highlights correctly that whilst monopolistic behaviour is rarely in the interests of the consumer, that customers are sometimes better served by a monopoly being regulated than by the introduction of competition. In particular it is recognized throughout the world that it is in the best interests of gas consumers, for natural monopolies such as gas transmission and distribution networks, 1 to be regulated than to introduce pipe-to-pipe competition that reduces efficiency and increases costs. However, one of the challenges for regulators, and the PNGRB will be no exception to this, is to identify those aspects of the gas chain that may be considered as contestable markets 2 and therefore subject to competition. Finally this section highlights that the two main strategies open to regulators and Governments is to identify both natural monopolies in order to regulate them, and contestable markets in order to facilitate competition in them.

A different view

1. The unbundling of transportation and marketing activities for Petroleum products and natural gas was thought of long back by the Government and an exercise was jointly carried out by the oil PSUs and co ordinate by OCC way back in 2000. After prolong deliberations the consensus decision was to postpone this exercise indefinitely at least till enough infrastructure for gas transportation is created in the country and private oil marketing companies secure reasonable share of petroleum products and natural gas market.
2. The decision to postpone indefinitely the unbundling exercise was based on the fact that there was no clarity about the Government policy to push up the (i) growth of gas transmission infrastructure and (ii) unrestricted opening for petroleum product marketers in India (although there was no restriction in gas market but there was no gas market per say).
3. The enactment of Petroleum and Natural Gas Regulatory Board Act (PNGRB) in 2006 and subsequent notification in 2007 made it clear that the government intends to develop the petroleum products and natural gas pipeline infrastructure through competition and also allowing opening of the sector for 100% FDI. At the time of notification of the act i.e. march 2007 and October 2007, the share of natural gas in Indian energy basket was only 8% as against a world average of 24%. Therefore the Government rightly thought that the gas transmission infrastructure would primarily be developed by the entities which also have interest in gas marketing. This intent is clearly reflected in the PNGRB Act. Section 21 of the Act reads:

“...the entity laying, building, operating and expanding a pipeline for transport of petroleum product, Natural Gas and CGD shall have right of first use for its own requirement and the remaining capacity shall be used amongst entities as the board may after issuing the declaration under section 20 ..”

The section 20 of the Act vests power in the board to declare a pipeline as common carrier or contract carrier and reads as under:

“... Provided the entity is engaged in both marketing of Natural Gas & laying, building, operating and expanding pipeline for transportation of natural gas as common carrier or contract carrier. The board shall regulate such entities to comply with affiliate code of conduct as may be specified by the regulation and may require such entities to separate the activities of marketing & transportation within in such period as may be determined by the board...”

These two sections of the act need to be read in tandem. The Primary objective of the Act is to ensure the growth of infrastructure through the competition among the entities. Obviously anyone who wants to invest in gas infrastructure must have interest in gas trade. This is also true for the reason that the gas market is not matured in India and so is the gas transportation infrastructure. Therefore the first right of use in the transportation system capacity for the entity to develop the gas transportation infrastructure is bare minimum incentive which has been provided in the Act. It is further interesting to note that having published the PNGRB Act in March, 2006, the Govt. Of India notified its policy on natural gas pipeline in October 2006. The policy among other things specifies the quantum of the pipeline capacity which can be used by the infrastructure developer and how much capacity should be provided for Common Carrier Contract Carrier. To be precise, 2/3rd of the Gas transportation Pipeline capacity can be used by the developer and 1/3rd is for the Common Carrier& Contract Carrier. The NG policy of 2006 extended the provision of Petroleum Product Pipeline policy of 2002 as revised in 2004 having a provision of 3/4 of the capacity for own use and 1/4 is for Common Carrier Contract Carrier.

4. The above policy statements read in conjunction with the Act clearly spell out the policy maker's intent to first develop enough transportation infrastructure for petroleum Products and natural gas and then think of unbundling. This is very right even as a common sense that we need to bundle first so as to unbundle later on when the market matures.
5. Further the steps in the growth of pipeline infrastructure and development of the gas market as enshrined in the Act and policies of the Govt. are:-
 - a. Development of pipeline infrastructure and gas market as bundled activity.
 - b. Application of affiliate code of conduct so that the activity of gas transportation (regulated activity under PNGRB) and Gas marketing (unregulated activity) are pursued as arm length. In view of one above
 - c. The unbundling of gas transportation and marketing – the steps may be legal separation, account separation and physical separation

6. Now the question comes what should be the indicator for an unbundling. The first and foremost indicator is the reasonable growth of pipeline network which can support a gas market share of at least 60% of the world average say 15% in India's energy basket for which obviously the connectivity of the line consumers through a national gas grid must be in position numerically this figure could be the one which entails completion of the pipeline authorised by the government before enactment of the Act and authorised by the board thereafter and those PNGRB has currently EOI in hand. This network will make a cumulative length of exceeding 26500 Km in India. Further to access the gas reserves in North East states another pipeline connecting Manipur, Mizoram, Tripura, Meghalaya, Arunachal Pradesh and Assam to national Gas grid at Gaya (around 2500 km with spur lines) will make Indian Gas Infrastructure reasonably developed for Gas accessibility by consumers. At that stage when infrastructure reaches a level of 30000 including perceived growth of spur line of 1000 Km, and the gas share in Indian energy basket touches 15% one could think of unbundling.
7. As an intermediate step the implementation of "Access Code Regulation" will enable the shippers or marketers of petroleum products and natural gas to develop their market share and subsequently when the regulated business of transportation can sustain on standalone basis for various players, the unbundling may be triggered off. However if the If unbundling exercise is taken up now it will retard badly the growth of infrastructure because Gas market is not really an open market situation where demand exceeds the availability, domestic production subsidises the import, Govt. continues to allocate Gas Volume with sectoral priorities.
8. Therefore respecting the spirit of the Act and the Government Policy on Natural Gas and Petroleum Products pipelines, the unbundling stage for separation of transportation and marketing activities has not reached and we should allow developing gas infrastructure in India which would allow the growth of gas market. The trigger for unbundling exercise to be drawn from Para 6 above

Format of unbundling

In Section 3 of the Unbundling paper the three main types of unbundling strategy are identified as accounting, legal and ownership/management unbundling. However, in general where gas markets have undergone this process of unbundling, typically four potential types of unbundling have emerged as follows:

- Accounting separation
 - Definition - This involves the keeping of separate accounts for production, transportation and trading activities within the same vertically integrated entity. On this basis a vertically integrated entity charges itself the same price for transportation services as it does others. Accounting separation is relatively easy to implement, legal difficulties are minimal, opposition from industry tends to be weak, and set-up costs are modest.
 - Potential problems – This is a paper-based exercise that identifies separately the cost of transportation and marketing. However the provision of data and its analysis can often be source of contention between the incumbent monopoly and its regulator at best, and subject to manipulation at worst. In addition cost allocation between the transportation and marketing functions can often be quite arbitrary. In addition, the analysis of the accounting data often requires considerable detailed knowledge of the business which would typically reside with the business rather than with the regulator. Although accounting separation hopefully prevents cross-subsidization between transportation and supply business, it does little if anything to prevent other problems, including transfer of confidential information and preferential treatment of affiliate.
- Management unbundling
 - Definition - Management unbundling is really accounting separation, plus a separation of those employees involved in transportation and trading. This is usually achieved with the assistance of internal information barriers, which - at least in theory - are meant to prevent the flow of market sensitive information between the two business centres.
 - Potential problems - Whilst management unbundling is a good next step, in practice the marketing and transportation departments will be operating very closely with each other and any information barriers will often be regularly breached. Therefore whilst various codes of

practice may require the entities to operate on an arm's-length basis, given the previously integrated nature of the transportation and marketing businesses, such segregation within a management-type structure is often difficult to achieve.

- Legal unbundling
 - Definition – This involves the establishing of separate legal entities that can be wholly owned subsidiaries of the previously fully bundled monopoly. Potential problems – One of the major problems with stopping the unbundling process at legal unbundling is that ultimately both transportation and marketing businesses report to the same company board. This can lead to confusion and double-mindedness at a corporate level. For example the marketing entity would ideally want gas transportation charges as low as possible in order to ensure gas is competitive in the market place, whereas the transportation business would prefer higher transportation charges to maximise profit.
- Ownership unbundling
 - Definition - Full ownership unbundling is the creation of separate legal entities for transportation, and trading (and possibly storage), with each company being completely separate. Ownership separation solves nearly all concerns about discrimination because it eliminates the incentive as well as the ability to discriminate.
 - Potential problems – The main challenge associated with full ownership unbundling is to ensure firstly that all legacy issues are dealt with and secondly that both businesses are viable in their own right.

Which type and at what stage?

Section 4 briefly discusses the type and timing of unbundling. However, one point that is worth making is that the Unbundling paper seems to assume that new infrastructure can only be built by integrated transportation and marketing businesses with a 'right of first use' going to the integrated entity. Whilst UPES recognises that sometimes it is necessary to take such an approach, it does not have to be the default position for PNGRB in establishing a new regulatory regime. Indeed where transportation and marketing have been fully unbundled with completely separate ownership, the key factors in the facilitation of pipeline system development are rates of return and longterm gas transportation commitments.

Present situation

THE ROLE OF THE AFFILIATE CODE OF CONDUCT

Under the current arrangements the Board manages the potential conflicts within any incumbent monopolies through its Affiliate Code of Conduct, in order to ensure the following:

- Interaction between the entity and its affiliates are at an arm's length
- Consumers interests are protected
- Prevention of cross subsidies
- No preferential access
- Development of a fair and competitive gas market

As previously mentioned whilst regulators and senior management of incumbent monopolies sincerely enter into these Codes with the best intentions, in practice at working level these Codes are easily and regularly breached. In the experience of UPES, ultimately such objectives are only achieved through full ownership unbundling.

THE ROLE OF ACCOUNTING SEPARATION

As previously mentioned, whilst the first step in the development of competitive gas market is a degree of accounting separation, in practice such accounting separation is exceptionally difficult to achieve. Typical problems include the following:

- Information provision – Disagreement between the regulator and the incumbent monopoly on the provision of confidential information. In addition it should be noted that the management information systems used by the incumbent monopoly were not necessarily designed for accounting unbundling and therefore the process of gathering information can be both time consuming and costly.
- Allocation of costs – Given the previous integrated nature of the incumbent monopoly, the allocation of costs from one business segment to another can often be quite arbitrary.

In reality the gas transportation business should be encouraged to develop its accounting procedures in the context of developing a proper gas transportation rate base.

Suggested approach

GENERAL COMMENTS

In Section 6 of the Unbundling paper PNGRB suggests the following staged approach.

- Stage 1 – Review of accounting separation by FY 2013-14
- Stage 2 – Legal unbundling by FY 2015-16
- Stage 2a – Development of a capacity trading regime
- Stage 3 – Ownership unbundling, subject to gas network development, interconnectivity, development of capacity trading etc.

In terms of the above approach the key points to note are as follows:

- **Timing** – The above timetable is probably achievable but is also somewhat ambitious. Given that any restructuring of the Indian gas market will be required to last for decades an extra year or two at this stage may be time well spent.
- **The importance of accounting and IT systems** - It is important to recognize that changes in market structure along the lines of those envisaged also require corresponding changes in company accounting and IT systems. The Board should not underestimate the time required in designing, building and commissioning these systems.
- **Regulatory certainty** – Under the current proposals ‘Stage 3’ full ownership unbundling is a possibility but not a certainty. In the business world gas transportation and marketing businesses are required to manage all sorts of technical, commercial, regulatory, political and financial risks. However if the Board can minimise regulatory risk by providing certainty on industry structure this will serve the Indian gas industry well.
- **Capacity trading** – Whilst the Board are quite right that the provision of some form of capacity trading capability is important, in reality considerable more thought needs to be given to this area including the need for open-season or capacity auctions, and use-it-or-lose-it provisions to highlight two areas.

A DISCUSSION ON OWNERSHIP UNBUNDLING

The one question that the Unbundling paper seems to dodge is the need for full ownership unbundling. It would appear from the paper, that the concept of full ownership unbundling is an idea that may only take place in the distant future, providing that the gas grid has been developed and that there is sufficient interconnectivity of pipelines. Whilst caution is understood, it needs to be recognized that the full benefits of gas-to-gas competition will only be achieved when pipelines are fully unbundled from their marketing businesses. To stop short of full ownership unbundling will limit the benefits that a fully unbundled competitive gas market can bring. In the experience of UPES there are a number of reasons why full ownership unbundling is required as follows:

- **To avoid discrimination** – By vertically separating monopolies from competitive activities such as marketing it is possible to avoid discrimination. Not only does full ownership unbundling prevent information leakage between the transporter and the marketer, it also removes the suspicion that information might be leaking.
- **To avoid cross-subsidies** - An integrated transportation and trading business has inherent cross subsidies, which can be avoided with full ownership unbundling.
- **To provide of clear economic signals** - Providing that the transportation charges reflect the true costs of moving the gas, and that the rate of return used provides a real incentive to invest, then any investments will be based on a much clearer understanding of the economic drivers for investment.

- **To improve the effectiveness of regulation** – Stronger separation facilitates a more effective ring-fencing of regulated activities and, therefore, a more cost reflective pricing of transportation services. The point to note here is that in the absence of full ownership separation, the parent company which is responsible for both transportation and trading businesses will have conflicting objectives for its different business arms.
- **To provide strategic benefits** – Full ownership unbundling can also lead to a number of strategic benefits, which have caused some incumbent monopolies to implement full ownership unbundling voluntarily. Strategic benefits have included, the ability to focus both businesses, the ability to explore business activities outside of regulatory control, the ability to refinance a low-risk network business by gearing up.

In addition one concern often raised is that by introducing full ownership unbundling large infrastructure projects will no longer take place since there will not be any long term sales contracts to underwrite the investment (for example, in connecting a power station to the gas transport network). Whilst shorter term sales contracts will come into effect irrespective of the degree of unbundling, the reality is that transportation charges will continue to be charged to the customer via a third party and therefore whilst the actual sales contract may be shorter with the customer switching suppliers every few years the income stream from the transportation charges will be continuous.

Conclusion:

In conclusion then this paper is a good starting point for the development of an unbundling strategy for the Indian gas market.

Key areas for future discussion include the following:

- **Timing** – The proposed timetable is probably too ambitious
- **Extent** – It is important to clarify as quickly as possible the extent of unbundling required by the Board. Whilst in this paper UPES have argued for full ownership unbundling, lingering uncertainty would be very unhelpful to the long-term development of the Indian gas market.
- **Capacity** – This is a major issue and its complexity should not be underestimated. The development of an open and transparent capacity trading regime will be a key factor in the successful development of a competitive Indian gas market.

Vote of Thanks

We want to acknowledge the UPES team who under the guidance of Mr. Sanjay Kaul has successfully completed this project. University also extends deepest gratitude to Mr. BD Gupta, Mr. BS Negi, Mr. Prasad Das Gupta, Mr. Tom James & Mr. Mike Madden for their special contribution.