Shortcomings in governance of natural gas sector

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Introduction

Natural gas, which is seen as a transition fuel to the low carbon economy, is poised to become an important component of the Indian energy basket with large finds off the Indian coast over the last decade[1]. In this situation, one would expect the state, as the guardian of public interest, to formulate policies and mechanisms to ensure that this resource is used to maximize public benefit. In the gas sector, this would include policies for natural gas exploration, production, transmission and distribution, mechanisms for pricing and utilization, and regulatory processes for independent and effective oversight of the sector.

However, the unfortunate reality in the gas sector is that governance has failed on most of the above counts. If the natural gas segment has been in the media spotlight recently, it has been for all the wrong reasons such as the recent verdict of the Bombay High Court in the high profile case between Reliance Industries Ltd. (RIL) and Reliance Natural Resources Ltd. (RNRL), and its fallout. The objective of this paper is to look behind the media glare and highlight the governance shortcomings in the gas sector that need urgent attention. Interestingly, several of these issues were highlighted about two years ago in the same journal [Prayas 2007].

Background

The upstream oil and gas sector, which includes exploration, development and production of hydrocarbons, is governed by the New Exploration Licensing Policy (NELP) since 1999. NELP was designed to spur exploration in Indian fields by private and public operators by offering them attractive terms. There have been seven rounds of NELP so far in which blocks representing about 55% of the Indian basin have been auctioned to private and public contractors. This has resulted in over 100 discoveries of oil and gas, and about 50% increase in the known reserves in the country [DGH 2008]. Most of these finds have been of natural gas, the total value of which could be about 15% of India's GDP[2]. The most prominent gas find so far is in the D1 and D3 fields of the KG D-6 block operated by RIL whose peak gas flow is expected to be 80 million cu m per day (mmscmd). The Production Sharing Contracts (PSCs) signed between the Government and the contractors who won licenses for exploration under NELP allow the contractors freedom to market the gas at prices discovered through 'arms-length' negotiations, and bind them to follow the Government's gas utilization policy.

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[1] India prepares for shift to gas-based economy, Business Standard, April 27, 2009

[2] The value of the gas is calculated at $4.2/mmbtu, the approved price of gas from the KG basin.

The downstream segments of the sector such as pipelines and city gas distribution (CGD) are regulated by Petroleum and Natural Gas Regulatory Board (PNGRB) [MoPNG 2006]. PNGRB's role is to develop regulations for gas pipelines, CGD etc., to authorize entities to lay and operate pipelines and CGD networks, and to act as the arbiter in disputes in these matters.

NELP: Transparency and contractual issues

Contractors who find oil or gas under NELP are expected to share the profits of their proceeds with the Government according to the terms of their bid. Profits are calculated by subtracting the costs (of exploration, development and production) from the revenue generated by selling hydrocarbons. The contractor's declaration of costs (or investments) in a particular block can have a significant impact on the Government's share of revenues since gold-plating an investment will result in higher returns for the contractor and lower returns for the Government.

One of the major issues of concern in NELP has been regarding investments in blocks, particularly in the case of KG basin find. Various figures, ranging from $2 billion to $11 billion were quoted and questions have been asked in Parliament whether the costs are indeed prudent[3]. In an attempt to address the concerns of citizens, the Directorate General of Hydrocarbons (DGH) recently published a document explaining why, in its opinion, the investments by the contractor in the KG basin block are justified [DGH 2009a]. While DGH's clarifications may address the issues related to this block, it still raises the questions of why the clarifications were issued only two years after the controversy broke out, and why there is so limited transparency in the matter (for example, regarding investments in all the other NELP blocks).

Another potentially troublesome issue is about how well the investments in a block have been 'ring-fenced', i.e. not allowed to be transferred to another block, since investment in an unsuccessful block has to be written-off by the contractor whereas investment in a successful block is recoverable along with profit. This issue is even more important considering just two contractors – ONGC (59 fields and 397,000 sq km) and RIL (33 fields and 341,000 sq km) – have won 62% of the blocks representing 79% of the acreage auctioned so far [DGH 2008]. Therefore, it is the responsibility of the DGH to ensure veracity of the investments in each block and reassure citizens about it.

Official information about actual discoveries made so far is extremely hard to find. The websites of DGH[4] or MoPNG do not give details such as the verified and validated reserves in different blocks, the expected rate of flow etc. Even the annual report on exploration and production brought out by the DGH does not have such figures [DGH

[3] RIL keeps KG capex options open, Business Standard, 8th August 2007, Let's do the math, Business Standard, 29th June 2009.

[4] http://www.dghindia.org/site/dgh_discovered_fields.aspx and http://www.dghindia.org/site/dgh_producing_fields.aspx as of 25th June 2009

2008]. Therefore, media reports[5] become the primary sources of information, in spite of a DGH issued guideline that says discoveries should be reported in the media only after DGH certifies them, in order to avoid falsely affecting market sentiment [DGH 2006]. Though DGH has occasionally acted on such media reports and censured the contractor [DGH 2009b], it would be far better if it regularly (say quarterly) published verified figures of reserves and likely production rates in a simple, easy to access format.

Another policy issue for the Government to consider from the energy security perspective is how quickly to deplete hydrocarbon reserves of the country. This has implications on how NELP should be structured – for example, should exploration be separated from development and production, so that the mapping the country's hydrocarbon reserves is not directly linked to their extraction? Moreover, exploration costs are typically much smaller than the cost of hydrocarbons and are about 25% of the total field development and production costs. For example, the KG basin exploration costs are about $2bn while the value of the hydrocarbons there are about $50bn and total costs are about $9bn. Therefore, the incentive structure for exploration may need to be restructured to account for substantially different financial risks involved in the two.

There have been serious concerns about transparency of NELP contracts, which are worth billions of dollars. The model PSC and bid evaluation criteria for the first NELP were not public, while for later rounds no information is publicly available about the winnings bids and final PSCs for any block! There have also been concerns about the procedural lapses in the way environmental clearances have been granted to oil and gas projects given the possibility of land subsidence in off-shore exploration[6].

MoPNG and DGH need to articulate a clear vision of how they propose to deal with issues such as investments, hydrocarbon depletion rate, bidding criteria etc. and follow up on them. One way to do this is to collate best practices around the world and adapt them to the Indian context in a transparent, participative manner. For example, some countries are moving towards a block auctioning mechanism with restrictions on the number of blocks a contractor can operate. Similarly, international benchmarks exist for accounting transparency norms to be followed by contractors and governments [Humphreys et al 2006]. Adopting such practices will make it easier to assure citizens that there is no gold-plating or transfer of investments, and that all information about the country's natural resources is public.

Pricing and utilization: Lack of clear policy

NELP PSCs allow contractors the freedom to market the gas as per the prevalent gas utilization policy after price is discovered through 'arms-length' negotiations [MoPNG

[5] New RIL gas find may put India among top 15, Economic Times, 29th May 2009
GSPC submits plan to develop KG gas, Hindu Business Line, 20th June 2009
ONGC scores hat-trick on gas discoveries, Economic Times, 23rd June 2009

[6] Court seeks records of KG basin gas, oil, The Hindu, June 02, 2009
Report on land subsidence in KG basin sought, The Hindu, June 30, 2009

2000]. Note that the regulator has no role in determining the price of gas – instead the price is expected to market-determined.

The court cases between RIL, RNRL and NTPC are primarily about pricing and utilization. Their genesis can be traced back to MoPNG's failure to act decisively at the beginning. Firstly, MoPNG was a mute witness as NTPC issued its global tender to buy 12 mmscmd of gas and RIL won the tender with a surprisingly low bid of $2.4/mmbtu (million btu). It then continued to watch as RNRL, then a group company of RIL, cited the NTPC auction as reference and signed an in-house agreement with RIL for supply of 28 mmscmd (more than twice the quantity promised to NTPC) at the same price. MoPNG think it fit to intervene in the matter only when the Ambani brothers split and the gas price was 'fixed' at $4.2/mmbtu leading to the current court cases. It did so by filing an affidavit in court saying the NTPC contract with RIL was not 'concluded'[7] provoking furious objections from NTPC and the Ministry of Power (MoP), and allegations of bias from MPs[8], forcing it to retract its position in court[9]. Clearly, this does not inspire confidence that MoPNG has consistently been protecting public interest, in spite of recent announcements to that effect by the minister for petroleum and natural gas[10].

The price discovery of the KG basin gas was also riddled with controversy [Prayas 2007]. The main concerns were that the bidding was selective, bidders had a very narrow range to bid in, and the final price was higher than the market clearing price. A Committee of Secretaries and the Economic Advisory Council examined the pricing formula and concluded that there were weaknesses in the bidding process. In spite of this, an empowered group of ministers (EGoM) with the final say in the matter fixed the price of gas from the KG basin at $4.2/mmbtu, which was close to the discovered price.

Once the price was fixed for all consumers, the issue of allocating gas among its different claimants became important. Considering the wide variety of applications of natural gas, and their potential impacts on the country's energy and food security, one would have expected the Government to formulate a well thought out set of objectives of the utilization policy, and develop the policy through a public consultative process so as to maximize the defined objectives. Unfortunately, the current utilization policy was drafted by the MoPNG and ratified by the EGoM in a non-transparent way [Prayas 2009]. The final published 'policy' is just a press release listing a priority ordering of different sectors without due justifications. Applications of natural gas such as combined heating and power, CNG for automobiles and domestic water heating have not been given due consideration though they could serve the country well by reducing its fuel import bill by thousands of crores a year and reducing need for investment in power generation by many thousands of crores.

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[7] NTPC has not concluded contract with RIL: Centre tells HC, Business Standard, 21st August 2008.

[8] NTPC slams government counsel on gas deal, Economic Times , 23rd August 2008
Petroleum ministry denies bias in Ambani v/s Ambani battle, Mint, 27th August 2008

[9] NTPC case: Ministry, counsel speak in different voices, Business Standard, 27th August 2008

[10] India warns Ambani pair over gas find, Financial Times, 22nd June 2009

Currently, the price and utilization has only been fixed for the gas flowing out of some fields in the KG D-6 block. Much more gas is expected from different blocks over the next few years, giving MoPNG a chance to develop a pricing and utilization policy in a transparent, inclusive manner with well defined objectives. Public discussion should also be initiated about the feasibility of bringing different gas prices (such as APM, JV and NELP) on par with each other as recommended by the Sankar Committee [Sankar 1996].

Downstream: Ineffective regulatory structure

The PNGRB Act was accepted by the President of India on 31st March 2006, and except for one crucial section, was notified on 1st October 2007 [MoPNG 2006]. But the performance of PNGRB so far raises further concerns. There have been reports about dissent within the board with some members feeling that the Chairman of the board was autocratic, and the Government has also pulled up the board occasionally[11]. Moreover, the procedure for appointing the regulators is also highly non-transparent, making it susceptible to political patronage or capture.

The effectiveness of PNGRB in regulating the sector has been questionable. One of the causes of this is the un-notified section of the PNGRB act dealing with entities that are already operating pipelines and distribution networks. Since many existing entities such as IGL had been authorized by the Government of India prior to PNGRB being set up, the lack of clarity about their status leads to conflicts between the board and entities. Similarly, there is also an on-going battle between PNGRB and MoPNG in the pipeline segment about who can authorize 9 trunk pipelines that had been approved by MoPNG just before PNGRB was set up, and as a result, it seems that the centre, south and east of the country is being starved of gas[12]. In addition, confusion also prevails about some entities involved in natural gas transmission and distribution based on authorizations received from *state* governments before PNGRB came into existence [PNGRB 2008b].

PNGRB's role includes authorizing entities to operate CGD networks, and this also has had its share of controversies. One example is its recent award of the Mathura CGD license to an operator with seemingly little experience[13] due to the way the bidding process was conducted.

All this suggests that the regulatory processes are not functioning effectively. In such a case, the Government needs to act by choosing among the options of issuing appropriate policy directives to PNGRB, amending the PNGRB act or approaching the Appellate Tribunal, to ensure that the regulatory function is effectively carried out to protect public interest. In this regard, it could learn some lessons from the electricity sector where the regulatory bodies, while far from perfect, still function much more effectively.

[11] Oil regulators revolt against Chairman, Business Standard, 11th July 2008
Ministry asks oil regulator to act as one hand, Economic Times, 15th July 2008
[12] The great gas pipeline chase, Business Standard, 25th June 2009
[13] DSM beats GAIL to bag Mathura city gas supply right, Business Standard, May 5th, 2009.

Market structure: Vertical integration and horizontal oligopoly

The market structure developing in the natural gas sector is heading towards a heavy concentration of one or two players across virtually all segments of the sector. As stated earlier, the upstream segment of exploration and production is dominated by two players, ONGC and RIL, who have won bids for most of the acreage so far. They are also expected to supply most of the country's gas in the near future with each supplying in the region of 100 mmscmd[14].

The situation is probably worse in the transmission and distribution segment. The traditional Government monopoly here was GAIL. It appears that there would be only two significant players – GAIL and RGTIL, the gas transmission subsidiary of RIL – in the gas transmission segment while their respective subsidiaries GAIL Gas Ltd. (GGL) and Reliance Gas Ltd. (RGL) would dominate the gas distribution segment[15]. Moreover, the two main adversaries do not appear to be interested in competing with each other. They have signed MoUs between them for gas transmission[16]. Out of the 60 cities for which the two intend to bid for CGD operations, they will be competing in just 2 cities! In fact, reports indicate that RGL and GGL will not compete against each other in any of the seven cities whose CGD licenses are currently up for auction, while GGL will surprisingly compete in Ghaziabad against its own joint-venture, IGL[17]!

Another interesting fact that emerges from this analysis is the emergence of a large single vertically integrated entity, namely RIL (with its subsidiaries RGTIL and RGL), which is not only poised to be a major player in production, transmission and distribution but is also a potentially big consumer with its interest in petrochemicals!

So, we are headed towards strong vertical integration and horizontal oligopoly. While PNGRB has notified regulations for 'affiliate transactions' that are expected to prevent misuse of market power by vertically integrated entities [PNGRB 2008a], its performance so far does not inspire confidence that it will be able to protect consumer interests, particularly with such a limited tool.

MoP went through elaborate discussions and public consultations before restructuring the power sector. It articulated the desired market structure and forced vertical unbundling of utilities. The power minister recently also stated that it is not desirable that a single entity should be awarded too many ultra-mega power plants so as to limit horizontal concentration. Internationally, there are examples of countries that have controlled market structures before opening up their gas sectors.

In contrast, MoPNG has been silent about the developing market structure, and has so far been passive even as vertical integration and horizontal concentration takes place across the sector. This is probably the single biggest governance lapse in the gas sector. To

[14] RIL expected to be top gas producer in 3 years, Business Standard, April 11th 2009
ONGC may see gas output jump to 100 mmscmd by 2015-16, Business Standard, May 11th 2009.
[15] RIL, GAIL apply for gas retail license, Business Standard, July 8, 2008.
[16] GAIL readies pipeline for RIL gas supply, Economic Times, 1st September 2008.
[17] Big guns bid for rights to retail CNG in seven cities, Economic Times, 26th June 2009

address this situation, MoPNG should officially invite public comments on the way in which a consumer-friendly structure can be developed and how strengthening of regulatory structures can be carried out. Otherwise, the issue should be taken up by a suitable higher-level forum / entity for protecting public interest.

Conclusions

There has been consistent lack of transparency and several governance lapses in the gas sector which have led to various kinds of concerns such as investment levels in blocks, availability of information regarding gas finds, content and process of arriving at pricing and utilization policy, regulatory weaknesses and emerging market concentration.

Therefore, the sector's governance is in need of a radical overhaul. MoPNG should chart a clear vision and agenda for the sector in a transparent, participative manner, and create suitable institutions and mechanisms to achieve them. In the recent budget, the finance minister announced the formation of an expert committee to look into a viable system for fuel pricing[18]. Perhaps, it is more urgent that the expert committee looks at the broader governance crisis of the entire gas/ oil sector and suggests remedies.

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