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Natural gas — III

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Effects of varying calorific value

Apart from the high basic price and transportation charges of natural gas, the fertiliser industry has to reckon with other cascading effects due to linkages with the calorific value of gas and the pressure at which it is supplied to the plants. The possibility of linking the price of gas to the cost of alternate fuels is being talked about in some quarters. This methodology of fixing prices is unrealistic and artificial because it assumes that the industry is free to choose between alternate feedstocks, says **Uttam Gupta.**

CITING information furnished by the Ministry of Petroleum and Natural Gas (MPNG), according to which the cost of transporting 1,000 cubic metres of gas for 1,000 km works out to Rs. 440, the Joint Parliamentary Committee on Fertiliser Pricing has noted that the present charge of Rs. 850 per 1000 cubic metres, irrespective of the distance, was on the high side. Based on the calculation of the MPNG and considering an average distance of 1,060 km of the plants along the HBJ Pipeline from Hazira, the Committee concluded that the transportation cost for gas supplies to the fertiliser plants would be Rs. 4,666.4 per 1,000 cubic metres.

In view of these anomalies, the JPC recommended that the Government examine these aspects and sought fixation of the transportation charges on gas sold to fertiliser plants along the HBJ pipeline on a 'reasonable' and 'realistic' basis. It also desired that 'in order to bring down the cost of transportation of gas along the HBJ pipeline, depreciation for the pipeline should be raised to 25 years instead of 10 years'.

Apart from the basic price and transportation charges being high, there is a further cascading effect on the industry due to the ad hoc and arbitrary treatment of linkages with the calorific value of gas and the pressure at which gas is supplied to the plants.

Under the existing dispensation, the price of gas is related to a range of calorific value i. e., 9,000-9,500 K. cal. This was consequent to the Kelkar Committee report which recommended a reduction in the range from 8,500-15,000 K. cal. prevailing then to the present level. The Committee, however, ruled out linking the price of gas to a specific calorific value.

It is true that the production and transportation costs do not vary with calorific value. However, adverse fallout of this on fertiliser industry, in particular, cannot be ignored. Unlike naphtha or for that matter any other feedstock, consumption of gas is highly sensitive to the changes in the calorific value, leading to varying cost implications. Reduction in calorific value results in higher consumption of gas for producing a tonne of fertiliser. In view of this and considering that variation in the calorific value of gas within the 9,000-9,500 range do not get compensated by the gas supplying agencies, it would result in a hike in the cost of production and correspondingly add to the fertiliser subsidy burden under the RPS.

Even to the extent the gas supplying organisations allow for a discount on account of the shortfall in the calorific value on the actual supplies, the units are subject to a serious loss as the reimbursement is computed on the producer's price of gas which is Rs. 1,500 per 1000 cu.m.

This results in under-recovery as the loss to the unit on account of extra consumption of gas is on the full price having to be paid at the factory gate, i. e., Rs. 2,100 per 1000 cu.m. for the plants on shore and about Rs. 3,000 per 1000 cubic metres for the plants along the HBJ Pipeline. In other words, the element towards various taxes and duties, charges towards the Gas Pool Account and additional transportation charge for plants along the HBJ pipeline remain uncompensated.

Pricing on the basis of a range of calorific value is also inconsistent with the practice the world over. In the US, the sale unit of gas is a "therm", consisting of 100,000 British Thermal Units (25,250 K. cal). The unit rate is charged per therm of natural gas and not in terms of the volume of gas alone.

Whereas the pricing of gas to the fertiliser plants subsumes its supplies at a pressure of 40-45 kg/cm2, the actual supplies to a number of plants are at a very low pressure of 25 kg/cm2. This was in fact, consequent to the unilateral decision of GAIL to modify the gas pressure to 25 kg/cm2 for contracts entered into after 1990. The problem is being faced by both categories of plants, i. e., on-shore and units located along the HBJ pipeline. Supplies of gas at a substantially lower pressure necessitates that heavy investments be made by the units for boosting the pressure to the required process parameter level, after having paid the full price to ONGC/GAIL. Alternatively, the users are being made to pay extra for corresponding gas supplies at a pressure of 40-45 kg/cm2.

Imposition of various taxes and duties, i. e. royalty on gas levied at the rate of 10 per cent and central sales tax (CST) at the rate of 4 per cent and sales tax which varies from state to state, (in Madhya Pradesh, for instance, it is 4 per cent whereas in Uttar Pradesh it is 8.8 per cent), have a cascading effect on the cost at which the gas is eventually made available to the fertiliser plants. Thus, even though the basic price of gas at the landfall point is Rs. 1,750 per 100 cu.m., the plants nearer the landfall point i. e. RCF-Thal, KRIBHCO-Hazira, GSFC-Baroda and IFFCO-Kalol have to pay at the rate of about Rs. 2,100 per 1000 cu.m. Likewise, for the units along the HBJ pipeline, while the basic price inclusive of transportation charges is Rs. 2,600 per 100 cu.m., the actual cost to the plants is about Rs. 3,100 per 100 cu.m.

Inter-state variations in the sales-tax is an additional problem leading to wide variations in the cost of gas to plants depending on location and, in turn, in the cost of production of fertilisers. Although, presently, these differences are taken care of by differential rates of subsidy allowed under the RPS (the latter recognises the actual landed cost of inputs to the concerned units), in a decontrolled environment and in the absence of subsidy support, these would differentially affect the cost competitiveness and viability of various units, depending on the location. In this context, the recommendation of the Kelkar Committee to include natural gas in the category of "declared items" under Section 14 of the Central Sales Tax Act, 1957, is yet to be implemented.

Additionally, even within the same state, there is the problem of differential sales tax being charged depending on whether the sales of the final product are made within the territory of the state in which the plant is located, or they are made outside. For instance, in Uttar Pradesh, for quantities of gas related to urea sold within the state, there is the concessional sales tax of 4.4 per cent whereas in respect of the gas quantities related to the urea sold outside Uttar Pradesh, this is applied at the rate of 8.8 per cent.

It is neither possible nor desirable for a plant to sell its entire production within the state in which it is located. This is particularly so, in the case of urea where the sales and distribution are controlled by the Government under the Essential Commodities Act. Apart from being inconsistent with the need for free inter-state movement of the product, the differential sales tax system also puts the individual units into difficulties in regard to their claims for reimbursement from the Government under the RPS. In fact, companies are not compensated under the pricing scheme for paying a higher rate of sales tax on gas for the quantities sold outside the state.

Presently, even as the T. L. Shankar Committee is in the process of working out the structure of gas prices that would take effect from January 1, 1996, the possibility of linking the price of gas to the cost of alternate fuels is being talked about in some quarters.

That this methodology of fixing prices is unrealistic and artificial was clearly brought out even by the JPC; artificial, because this assumes that the industry is free to choose between alternate feedstocks and their supply is not a limitation.

The feedstock policy is laid down by the Government incorporating vital factors such as resource endowments, technological development and growth in demand. During the 1960s, with substantial refinery capacity coming up, naphtha was the preferred feedstock for nitrogenous fertilisers. In the wake of the oil crisis, the use of coal and fuel oil was encouraged, the former to utilise indigenous resources and the latter, to minimise the outgo of foreign exchange. After new gas reserves were found in the 1980s at Bombay High and in South Bassein, gas has emerged as the predominant feedstock.

In view of this and considering the fact that the industry is not free to choose alternate feedstocks, the possibility of replacing gas by fuel oil or any other fuel does not exist. Consequently, the principle of equivalence becomes meaningless.

Internationally also, natural gas is the preferred feedstock in the production of ammonia/urea the world over. Of the total ammonia capacity worldwide, as much as 75 per cent is based on gas. In Russia, the Middle East and Indonesia which are dominant exporters, the share of gas is as high as 97 per cent, 91 per cent and 98 per cent respectively.

Notwithstanding the above, the adjustment of the gas price on the basis of alternate fuels will have serious implications for fertiliser units. For instance, using the pricing of naphtha as the basis, even at the prevailing concessional price of Rs. 4,500 per tonne (factory gate), the corresponding gas price will be about Rs. 3,800 per 1000 cubic metres. If the non-concessional price of naphtha is used as the basis, i. e. about Rs. 7,800 per tonne, this would lead to a still higher gas price of about Rs. 6,600 per 1000 cubic metres. At the prevailing import price of naphtha, the corresponding gas price will be about Rs. 6,000 per 1000 cubic metres.

(To be concluded)

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