

MINISTRY OF PETROLEUM AND NATURAL GAS

10 / 1 / 2014

Domestic Natural Gas Pricing Guidelines, 2014

The matter regarding pricing of domestically produced Natural Gas has been under consideration of Government of India for some time. After considering the matter in detail and keeping in view recommendations of the Rangarajan Committee Report on “the Production Sharing Contract Mechanism in Petroleum Industry” (December, 2012), the Government of India hereby notifies the **Domestic Natural Gas Pricing Guidelines, 2014**, as follows-

- 1.1 These guidelines will be applicable to all natural gas produced domestically, irrespective of the source, whether conventional, shale, CBM etc. These guidelines shall apply from 1st April 2014 with the exception of cases indicated in Para 1.2.
- 1.2 These guidelines shall not be applicable where prices have been fixed contractually for a certain period of time, till the end of such period. These guidelines shall also not be applicable where the production sharing contract provides a specific formula for natural gas price indexation / fixation. Further, the pricing of natural gas from small / isolated fields in the nomination blocks of NOCs will be governed by the extant policy in respect of these blocks issued on 8th July, 2013.
- 1.3 The prices determined under these guidelines shall be applicable to all consuming sectors uniformly.
- 1.4 These guidelines shall also be applicable for natural gas produced by ONGC/OIL from their nominated fields.
- 1.5 The pricing of natural gas produced domestically shall be based on the following methodology:
 - 1.5.1 First, the netback price of all Indian imports at the wellhead of the exporting countries will be estimated as detailed in Para 1.7 below. Since there may be several sources of gas imports, the weighted average of

such netback of import prices at the wellheads would represent the average global price for Indian LNG imports.

1.5.2 Secondly, weighted average of prices prevailing at trading points of transactions – i.e., the hubs or balancing points of the major global markets will be estimated. For this, (a) the hub price (at the Henry Hub) in the US (for North America), (b) the price at the National Balancing Point of the UK (for Europe), and (c) the netback wellhead price at the sources of supply for Japan will be taken as the average price for producers at their supply points across continents.

1.5.3 Finally, the simple average of the prices arrived at through the aforementioned two methods will be determined as the price for domestically produced natural gas in India.

- 1.6 Netback FOB Pricing: Netback FOB, according to Argus, is calculated based on daily spot LNG vessel chartering rates and accompanied and accompanying shipping related costs. These additional costs shall include:
- Daily spot LNG vessel chartering rates for east and west of Suez voyages based on 138,000 – 155,000 cu m standard size vessel.
 - a daily boil off rate of 0.15 % / day based on 98 % vessel capacity utilization rate
 - An average 50 pc of fuel consumption based on daily bunker consumption of 150 t based on local rates
 - An average of 50 pc of LNG fuel consumption based on the boil-off rate.
 - Voyage timing based on a laden leg speed of 19.5 knots.

Netback FOB prices reported in governmental or standard industry sources shall be adopted.

- 1.7 Producer's Net back pricing shall be arrived as per the following procedure:

I. Calculation of Producer's Netback Price for Indian Imports

- (i) While calculating netback to producers, the following components are deducted from the FOB price as they do not accrue due to production activity:

$$\text{Netback Price, N} = \text{A} - \text{B} - \text{C.} \quad \text{(I)}$$

$$P_{IAV} = (N_1 * V_1 + N_2 * V_2 + \dots) / (V_1 + V_2 + V_3 + \dots) \quad (II)$$

Where:

A = Imported LNG Price on Netback FOB available from standard industry sources.

B = Liquefaction costs at the respective loading port (source)

C = Transportation and treatment costs of natural gas from wellhead to liquefaction plant

$N_1, N_2 \dots$ are Producers' Netback, calculated as per Formula (I).

$V_1, V_2 \dots$ are the volumes corresponding to $N_1, N_2 \dots$ etc.

P_{IAV} = Weighted average Producer Net Back for Indian gas imports for trailing four quarters with a lag of one quarter. All imports, term and spot, will be included in the calculation.

V_1, V_2, V_3 and A shall be for the trailing four quarters with a gap of one quarter. P_{IAV} shall be calculated on quarterly basis for trailing four quarters with a lag of one quarter. The weighted average of quarterly P_{IAV} shall be the applicable P_{IAV} . This data will be made available by Indian importers and confirmed through customs department. This will be further validated from leading industry publications.

- (ii) An average of \$ 2.5/mmbtu shall be adopted as the liquefaction cost for plants which have started deliveries in or up to 2010, and \$ 3.5/mmbtu for exports from plants starting deliveries after 2010. These figures will be reviewed after a period of five years.

The trend of liquefaction costs can be ascertained from the data available from the reports of Facts Global LNG and Wood Mackenzie. Where it is not possible by any means (through customs or through industry sources etc.) to ascertain whether a particular shipment is from pre-2010 or post 2010 LNG Train, an average of \$ 3.0/mmbtu will be assumed as the liquefaction cost.

- (iii) The transportation cost from the well-head to the liquefaction plant will be considered as \$ 0.5/mmbtu. This includes handling charges and sweetening costs of gas.

II. Calculation of World Average Producer's Netback Price

$$P_{WAV} = (A_1 * P_{HH} + A_2 * P_{NBP} + A_3 * P_{JAV}) / (A_1 + A_2 + A_3) \quad (III)$$

P_{WAV} = Weighted average price to producers in the global markets for trailing four quarters with a lag of one quarter.

A_1 = Total volume consumed in North America in the relevant year i.e. trailing four quarters with a lag of one quarter.

P_{HH} = Weighted average of quarterly hub prices at Henry Hub. Quarterly hub prices will be a weighted average of monthly prices. Monthly prices will be based on simple average of daily prices during the month. P_{HH} shall be calculated for trailing four quarters with a lag of one quarter.

A_2 = Volume consumed in EU and FSU in the relevant year i.e. trailing four quarters with a lag of one quarter.

P_{NBP} = Weighted average of quarterly hub prices at National Balancing Point (NBP) in UK. Quarterly hub prices will be a weighted average of monthly prices. Monthly prices will be based on simple average of daily prices during the month. P_{NBP} shall be calculated for trailing four quarters with a lag of one quarter.

A_3 = Volume imported by Japan in the relevant year i.e. trailing four quarters with a lag of one quarter.

P_{JAV} = Weighted average producer's netback price of gas imported by Japan for trailing four quarters with a lag of one quarter. All imports, term and spot, will be included in the calculation.

P_{JAV} shall be calculated in the same manner as P_{IAV} is calculated in Formula (I)

- (iv) The netback price of LNG to be delivered in Japan from various potential sources across the globe can be determined from the FOB price at the loading country. The netback FOB prices and volumes at those prices from various exporting countries are available from LNG Daily and World Energy Intelligence, Argus, Platts etc. The FOB price includes liquefaction costs of gas at the plant in the producing country at the loading port, plus the transportation, including handling and sweetening charges of the gas from the producing asset to the liquefaction plant. Thus,

Producer's Netback for LNG Import

$$= \text{Netback FOB Price} - \text{Liquefaction Cost} - \text{Transportation Cost} \\ \text{(including Sweetening and Handling Charges)} \quad (IV)$$

Liquefaction costs and transportation costs (including sweetening and handling) are same as in the case of Indian average price in Para 1.7 (I) (ii) and 1.7 (I) (iii).

- (v) The formulae for P_{IAV} and P_{WAV} give an average price which producers across the world are realizing through production of natural gas. The average of P_{IAV} and P_{WAV} will be the price P_{AV} for domestic producers:

$$P_{AV} = (P_{IAV} + P_{WAV}) / 2 \quad (V)$$

- 1.8 Domestic Gas prices shall be notified in advance on a quarterly basis using the data for four quarters, with a lag of one quarter.
- 1.9 These policy guidelines shall be applicable for a period of five years with effect from 1st April, 2014.
- 1.10 In respect of D1 and D3 gas discoveries of Block KG-DWN-98/3, these guidelines shall be applicable subject to submission of bank guarantees in the manner to be notified separately.

[F. No. O-22011/3/2012 ONG-V]
Giridhar Aramane, Jt. Secy.