Comments on Draft Regulation on Bidding Criteria for CGD as annexed to Public Notice dated 16/1/2018 issued by PNGRB.

COMMENTS FURNISHED BY

AB SINGH
TECHNO INDIA VISION
VADODARA
DATE: 1ST FEB, 2018.
Comments on Draft Regulation on Bidding Criteria for CGD as annexed to Public Notice dated 16/1/2018 issued by PNGRB.

Executive Summary on comments as furnished in accompanied pages.

- There is no need to keep a term like CNG transportation tariff. A CNG compressor should be treated as integral to a CNG station and not to a network.
- Values of minimum net worth, bid bond and PBG should be worked out on a seamless basis from actual population of a GA and not as per population slab.
- Section 22 of PNGRB Act does not empower PNGRB to discover tariff through a bid process rather on a cost-plus basis as CERC have been doing under a similar Section 61 of Electricity Act - 2003.
- Inch kms of only steel network should be kept as a bidding parameter. Inch kms of MDPE/GI should not be a bidding parameter as the same are indirectly reflected in numbers of domestic connections which is already a bidding parameter.
- Market Exclusivity is extraneous to the PNGRB Act, it gives rise to a restrictive trade practice and forces consumers to depend on a single gas supplier.
- The bid evaluation method as stipulated in the draft regulation favours irrational and aggressive bidders that try to win by quoting unrealistically high physical targets like inch km and domestic connections that are “impossible to achieve” and if somehow achieved may lead to infructuous cost not allowed by section 20 of the Act. Instead, a new method called “Average bid principle using standard deviation” should be adopted to rein in irrationally aggressive bidding.

A. Draft Regulation - Section: (2) (f) & (2) (g)

The above sections read as:

(2) (f) "transportation Rate for CNG" means a charge (excluding statutory taxes and levies) in Rs. / Kg for online compression of natural gas into compressed natural gas (hereinafter also referred to as CNG) for subsequent dispensing to customers in a CNG station to be paid by an entity to the entity authorised to operate the CGD network;

(2) (g) "development of a CGD network" means laying, building, operating or expanding a city or local natural gas distribution network;

Comments: As per PNGRB Act and as per section (2) (g) as mentioned above development of CNG network consists primarily of laying /building /expanding gas

A B Singh,
Techno India Vision, Vadodara,
distribution network and there is no valid technical basis for including a CNG compressor as an integral part of a CGD network. CNG compressors come after last mile connectivity. These compressor(s) are integral part of CNG stations and should be clubbed with other assets of CNG stations like dispensers, cascades, land, superstructures etc. An authorized CGD entity can procure CNG compressors for its own requirement along with other items like dispensers etc whereas a Third party seeking access to the network for dispensing CNG can procure CNG compressors on its own along with other allied items to suit his own compression and dispensing requirement and time line. There is no need and justification to split responsibility of procuring CNG station assets partly to the CGD operator and partly to the Third party. It amounts to introducing unnecessary complication.

The responsibility of an authorized CGD operator should end at providing pipe line connection up to the suction flange of a CNG compressor. Such a concept will also eliminate “Compression Charge” as one of the bidding parameter and lead to simplification and only network tariff will remain in the reckoning.

From safety angles also, the concept of setting up a CNG compressor not as an integrated system with dispensers, cascades etc entails laying very high-pressure pipe line operating at 250 bars between compressor (which may be located a bit away from dispensing facilities as per current stipulation) and CNG station battery limit which far exceeds 49 bar maximum limit for a CGD network stipulated in other relevant regulation notified by PNGRB. However, as an integrated system of CNG compressor, dispensers, static cascade etc, 250 bar pressures is acceptable as per PESO norms.

Also, an integrated approach will demand a smaller piece of land for setting up the CNG facilities than a disjointed concept formulated by PNGRB in the relevant regulations. Further, like any reciprocating machine, a CNG compressor demands intensive regular maintenance and any slackness on part of CGD operating entity may lead to contractual disputes with the Third Party. An integrated concept will be free from such contractual irritants. Therefore, let there be only one entity responsible for installation and upkeep of CNG facilities including compressors for its own use.

B. Section (5) (6) (e): Minimum net worth requirement.

Comments: Minimum net worth (MNW) requirement is to be worked out as per GA population. There is no need to spell out MNW requirement on the basis of different population slabs. For a CGD project a population range of 2 million to 5 million is quite relevant as nearly 95% of CGD areas notified or to be notified in future may fall in this range. As per existing regulation already notified, MNW of Rs 1500 million has been considered corresponding to population equal to 5 million and Rs 1000 for population just less than 5 million, say 4.99 million. Such a steep variation in MNW requirement for a GA having population around 5 million defies all logic. Therefore, a seamless basis may be a better one - we should consider MNW requirement of Rs 1250 million (average of 1500 & 1000) for a population of 5 million and MNW requirement for any other population can be arrived at on a pro rata basis by rounding the same to the nearest million Rs but subject to minimum Rs 500 million.

A B Singh,
Techno India Vision, Vadodara,
C. Section (5) (6) (h): Bid bond requirement

Comments: It is noted that earlier notorious concept of 'additional bid bond' has rightly been abandoned. Coming to the current draft regulation, it is observed that bid bond value for a GAs of 2 million population and 5 million population is same i.e. Rs 50 million. Since there is a vast difference in population, the bid bond value for population of 2 million should be suitably brought down. It is suggested that we may retain bid bond value of Rs 50 million for population of 5 million and for any other population, bid bond requirement can be determined on a pro-rata basis in a seamless manner and rounded to the nearest million rupees subject to minimum Rs 30 million.

D. Section 7: Bidding criteria & method of bid evaluation.

Comments: This section needs a very careful scrutiny. There may be very serious implications if all aspects are not deeply analysed. The following factors need to be considered.

(a) It is well known that in countries like United Kingdom and in European Union, the same regulatory body regulates natural gas distribution networks as well as electricity distribution networks because both the systems are almost symmetrical in nature. For example, Office of Gas and Electricity Markets, Ofgem, regulates both types of networks in UK. In contrast, in Indian, we have two Acts – for gas distribution we have PNGRB Act 2006 and the regulator is the Board constituted under the Act. For electricity distribution (and generation) we have Electricity Act 2003 and the regulator is Central Electricity Regulatory Commission, CERC. The basic principles and objectives as laid down in respect of tariff determination are similarly worded in both these Acts. In PNGRB Act, Section 22 provides the guidelines for tariff determination and there is no other section that deals with tariff. In EA 2003, Section 61 is worded on same lines as Section 22 of PNGRB Act and these sections provide for tariff determination on cost plus basis. However, in EA 2003, there is an additional section – Section 63 on tariff that provides for discovery of tariff through a competitive bid process. CERC have been determining tariff as per cost-plus basis as well as through competitive bid process since EA-2003 explicitly empowers it to apply either of the two options.

Since PNGRB Act has got no section like section 63 of EA 2003, it is but natural to assume that Board is not empowered to discover tariff through a bid process though it has been doing so from its very inception. In fact, the Board should have been following the same approach as CERC have been following in conformance to Section 61. PNGRB is supposed to address all tariff issues within the confines of only Section 22 of PNGRB Act. Under sections 61, CERC have been applying cost-plus method for determination of tariff, subject to revision every 5 years, after carrying a prudent checks of various cost elements as furnished by the authorized transmission system operator like capex, depreciation, loan equity ratio, opex and CERC have been allowing a reasonable return on equity that are typically in range of

A B Singh,
Techno India Vision, Vadodara,
15 to 16%. The following is being quoted from the relevant regulation notified by CERC for grant of license for building and operating transmission network:

"(1) In case the licensee has been selected for implementation of the project in accordance with the guidelines for competitive bidding, the transmission charges shall be adopted by the Commission in accordance with Section 63 of the Act.

(2) In all other cases, the transmission charges, incentive, or disincentive and other charges shall be determined in accordance with the terms and conditions for determination of tariff specified by the Commission under Section 61 of the Act and in force from time to time."

PNGRB should better look in to this contradiction as CERC and PNGRB are expected to follow the same approach on respective sections worded on identical lines. As it appears CERC may be doing the right thing in applying cost plus method for determination of tariff under Section 61. PNGRB may not be correct in deviating from section 22 that provides for cost plus approach only and resorting to tariff discovery through bid process. PNGRB approach is likely to be challenged in future. A suitable remedy is needed. We better remove network tariff as well as CNG transportation tariff from bidding parameters and leave these elements to be decided on cost basis as per CERC method being followed by it for quite some time or the PNGRB Act should be amended to have a section like section 63 of EA-2003.

(b) Having explained above under para (a), let us now come to the proposed bidding criteria involving network tariff and CNG tariff. These two elements can be considered as bidding parameters only if it is established that PNGRB has got power to discover tariff through a bid process which may not be the case as PNGRB Act does not provide for that under Section 22. A remedy is needed before the regulation is notified.

(c) Further, as explained under comments on Section 2(f) & 2(g), there may not be any need for a tariff like "CNG compression or CNG transportation charge" and therefore the same need not be shown as a bidding parameter.

(d) Since network tariff and CNG transportation tariff respectively cannot be allowed to be quoted below Rs 25/MMBtu and Rs 1.5 /kg as per graft, all the bidders would go for these minimum figures as seen in the past to score as high as possible for these parameters. Thus, it will not be playing any role as such in selection of a bidder.

(e) Section 7 (1) (serial nos. 2, 3 & 4) - Bidding parameters involving numbers of CNG stations, domestic connections and inch kms of pipe lines.

Comments: As seen in the past bidding rounds, the bidders have been indulging in aggressive bidding. For tariff, all the bidders including dominant

A B Singh,
Techno India Vision, Vadodara,
CGD entities have been going to the minimum admissible quote. For parameters involving physical targets like domestic connections, inch kms etc these bidders have been going in reverse direction and quoting extremely high figures – absolutely impossible to achieve during execution of the project. This irrational cycle has continued for too long in this sector. Some effective remedy is needed to have a check on this tendency. But before I proceed to suggest a way out, the following points need to be discussed.

(i) mentioning only number of CNG stations as bid parameter is vague and misleading as dispensing capacity may vary from one station to another, we may instead ask the bidders to quote compression capacity in SCM/hr basis as per design flow rating of CNG compressors and the design capacity of dispensing elements must be matched to the compression capacity.

(ii) With respect to inch - kms the bidder should quote for only inch kms of steel pipe lines to be laid during the specified period of 8 years and it should be duly supported by prints of suitable simulation studies carried out through Synergy/similar software showing pressure-profiles along pipe lines / gas velocity etc. Steel back bone shall be designed on the basis of a reasonable cushion of 15 % on aggregate peak hourly flow estimated for all categories of consumers as projected by end of 8 contract year and the same shall be duly computed and details furnished in the technical bid. (It should also be made clear to the bidders that this 8 years period is no way connected to any marketing exclusivity period refer comments below on marketing exclusivity. 8 years as mentioned here or under "year wise work program" should be read as a reasonable period by which time at least 85 to 90 % of steel network is supposed to be in place).

It will not be really needed to include inch kms of MDPE and GI pipe lines that deal with 4 bars and below distribution network as a bidding parameter. Since the number of domestic connections is already one of the bidding parameters and we know that such connections can only be provided if MDPE network (4 bar and below) is laid well in time. Domestic connection always implies that all up- stream network including risers are expected to be in place and ready for use.

(iii) New approach to evaluation of bids should be followed - Old approach (the same approach is retained in this draft regulation also) has inspired irrational and unrealistic quotes from bidders in the past. No bidder should be permitted to win a bid by quoting "impossible- to-achieve figures" towards physical targets as explained above. PNGRB must find a way out on the lines suggested herewith.

(iv) Evaluation method laid down in the draft regulation need to be abandoned. We need to follow what is termed as "Average bid principle using standard deviation". This principle is already in vogue
in countries like Japan, Italy, Malaysia, Switzerland, Taiwan, Colombia and also in some parts of USA. Even European Commission (2002) have suggested a similar method. Boston University, department of economics, in its research paper dated May 17, 2013 has also advocated this approach.

In India, Ministry of Road Transport & Highways (vide circular ref no. NH-15017/96/2014 -P&M dated 18 Jul, 2014) are also found to be in favour of this method to contain the ill effects of aggressive bidding that have been plaguing this vital infra sector for quite some time. The method, as detailed below is based on the very quotes obtained and selection is not on the basis of lowest quote for cost-based elements or highest quote for physical targets and therefore this method is no way linked to the internal estimates of the ministry /departments as such estimates are always contested by the unsuccessful bidders.

We first calculate the variance against each bidder by subtracting mean of all quotes from each individual quote. Then we take the sum of square of each of variances so obtained. To get Standard Deviation (SD), we divide the square root of above sum by (N-1) where N is number of bidders. Division by (N-1) is called Bessel’s Correction. Then we find out band width of SD which ranges from (Mean - SD) to (Mean+ SD). All responsive bidders are supposed to be in this band -width. Rest is explained in table below through an example

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Bidders</th>
<th>Domestic Connections No.</th>
<th>Relative position of bidders</th>
<th>Inch Km (Steel) Nos</th>
<th>Relative position of bidders</th>
<th>CNG STATION (SCM/Hr)</th>
<th>Relative position of bidders</th>
<th>SUM of Relative scores</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B-1</td>
<td>84000</td>
<td>98</td>
<td>2500</td>
<td>89</td>
<td>85000</td>
<td>98</td>
<td>285</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>B-2</td>
<td>75000</td>
<td>87</td>
<td>2550</td>
<td>91</td>
<td>83500</td>
<td>96</td>
<td>274</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>B-3</td>
<td>65000</td>
<td>76</td>
<td>2560</td>
<td>91</td>
<td>76000</td>
<td>87</td>
<td>254.37</td>
<td>-8</td>
</tr>
<tr>
<td>4</td>
<td>B-4</td>
<td>67000</td>
<td>78</td>
<td>2475</td>
<td>88</td>
<td>77500</td>
<td>89</td>
<td>255.38</td>
<td>-7</td>
</tr>
<tr>
<td>5</td>
<td>B-5</td>
<td>86000</td>
<td>100</td>
<td>2800</td>
<td>100</td>
<td>69000</td>
<td>79</td>
<td>279</td>
<td>17</td>
</tr>
<tr>
<td>6</td>
<td>B-6</td>
<td>77000</td>
<td>90</td>
<td>1950</td>
<td>70</td>
<td>87000</td>
<td>100</td>
<td>259</td>
<td>-3</td>
</tr>
<tr>
<td>7</td>
<td>B-7</td>
<td>59000</td>
<td>69</td>
<td>2175</td>
<td>78</td>
<td>68000</td>
<td>78</td>
<td>224</td>
<td>-38</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>262.00</th>
</tr>
</thead>
</table>

Variance is sum of relative scores less mean.

Standard Deviation

\[
SD = \left( \frac{\text{Square root of sum of square of each variance}}{7-1} \right)
\]

\[
SD = 8
\]

BAND WIDTH OF SD (MEAN -SD to MEAN+SD)

<table>
<thead>
<tr>
<th></th>
<th>253.69</th>
<th>To</th>
<th>270.31</th>
</tr>
</thead>
</table>

Responsive bidders (bidders within band with)

<table>
<thead>
<tr>
<th></th>
<th>254</th>
<th>255</th>
<th>259</th>
</tr>
</thead>
</table>

Mean of relative scores of responsive bidders

<table>
<thead>
<tr>
<th></th>
<th>256</th>
</tr>
</thead>
</table>

Bidder nearest to 256

<table>
<thead>
<tr>
<th></th>
<th>B-4</th>
</tr>
</thead>
</table>

Successful bidder

|                  | B-4    |

A B Singh,
Techno India Vision, Vadodara,
The above method of evaluation ensures that only most realistic bidder is selected by removing extreme bidders called 'outliers'. This approach will rein in the usual tendency of the bidders to go for aggressive bidding for winning bids and who underperform later in meeting project milestones or sustain loss and then lament for quoting very low tariff rates – this affects both client and contractor as projects get delayed or derailed.

F Section 8: fixation and recovery of Transportation rate for CGD and CNG.

Comments: This section should be suitably altered after taking into account the comments given earlier to this section and under section 12 below.

G Section 9: Performance bond.

Comments: PBG value for a GA of population 5 million should be 500 million and for other population of a GA it should be arrived at on a pro rata basis rounded to the nearest million Rs but subject to a minimum of Rest 30 million in order to have a seamless basis as suggested for net worth and bid bond requirements.

E. Exclusivity period: Section 12.

The current Draft Regulation stipulates "(… It (exclusivity period) will be 8 years for marketing exclusivity and if an entity achieves the quoted work program in all the contract years, will get a further extension of 2 years for marketing exclusivity etc"

Comments: This newly coined phrase "market exclusivity" for an authorized CGD entity, is an unnecessary tantrum being thrown into a regulatory framework. If it is retained, market exclusivity will keep consumers of gas hostage to a particular entity. As per Section 22 - sub-section (2) (b), an authorized entity is entitled to recover the cost of transportation of gas through its network in a reasonable manner. There is no section in PNGRB Act that provides for giving any exclusive marketing right to an authorized entity for using the network for supplying gas as a sole supplier for any length of time during network exclusivity period. An authorized entity, has network exclusivity period of 25 years currently and this is allowed under Section 20(4) of the Act and during this period no other entity is allowed to build any network in the authorized area.

In this context, we may refer to Section 40 & 41 of Electricity Act 2003 that lay down duties/obligations of transmission and distribution licensee. Quoting these sections is

A B Singh,
Techno India Vision, Vadodara,
quite relevant since a licensed (or authorized) CGD network operator is supposed to function essentially as a transmission /distribution licensee as per EA 2003.

Section 40. (Duties of transmission licensees):

It shall be the duty of a transmission licensee -

(a) to build, maintain and operate an efficient, co-ordinated and economical inter-State transmission system or intra-State transmission system, as the case may be;

(b) to comply with the directions of the Regional Load Despatch Centre and the State Load Despatch Centre as the case may be;

(c) to provide non-discriminatory open access to its transmission system for use by another licensee, consumers or an electricity generating company.

Section 41. (Other business of transmission licensee):

A transmission licensee may, with prior intimation to the Appropriate Commission, engage in any business for optimum utilisation of its assets:

Provided that a proportion of the revenues derived from such business shall, as may be specified by the Appropriate Commission, be utilised for reducing its charges for transmission and wheeling:

Provided further that the transmission licensee shall maintain separate accounts for each such business undertaking to ensure that transmission business neither subsidises in any way such business undertaking nor encumbers its transmission assets in any way to support such business:

Going by above provisions, the primary duty of an authorized CGD entity should be to build, maintain and operate an efficient, co-ordinated and economical network system and to provide non-discriminatory open access to its network for use by other entities. However, an authorized CGD entity may, with prior intimation to PNGRB may engage in any business-like marketing of gas to the consumers identified by it for optimum utilization of network assets provided such a business is not allowed to encumber its network assets and that it may have to maintain separate accounts as an operator of network and a marketer of gas.

It does not require an explanation to show the above objectives and the concept of 'marketing exclusivity' are poles apart.

During Network Exclusivity, an authorized entity is supposed to be the sole entity to build, expand and maintain the network in an authorized area and provide access to

A B Singh,
Techno India Vision, Vadodara,
gas suppliers including its own Special Purpose Vehicle to do marketing of gas if it so desires to create such a SPV. It can recover the mandated or quoted gas transportation tariff from each one of above gas suppliers including its own SPV.

PNGRB should, therefore, recuse itself from conferring any regulatory recognition on a term like “marketing exclusivity” which has been planted into the thought process of the regulatory body by a lobby of such entities who have won lucrative CGDs in the past by quoting Network and CNG compression tariff of Re 0.01 per MMBtu and per kg respectively. Nearly 50 (fifty) CGD projects have been won by these bidders by virtue of extremely low quotes of 0.01 Re/unit during the past 6/7 years. Accordingly, such bidders cannot demand more than 0.01 Re/MMBtu towards network tariff or 0.01 Re/kg towards CNG compression from a third entity that may like to use the network for supplying gas to the consumers identified by it. Revenue to the authorized entity from third party access will be virtually insignificant for which it has to blame itself for quoting so low figures just to win a CGD area. Therefore, this lobby has its own vested interest to ensure that third party accesses to their networks are delayed as long as possible by introducing marketing exclusivity. Obvious motive behind seeking “marketing exclusivity period” is not based not any merit - it is to deny a consumer its right to purchase gas at a reasonable price by choosing a gas supplier of his choice from a lot of gas suppliers entitled to have access to a CGD network on a non-discriminatory basis as soon as network becomes functional. “Marketing exclusivity” will therefore encourages a non-competitive regime in CGD sector. It will give rise to ‘restrictive trade practice’ as spelt out u/s (2) (zip) of PNGRB Act.

Therefore, marketing exclusivity cannot be introduced just to protect the interest of such irrational bidders who have in the past committed the folly of quoting minuscule tariff and have won the CGDs by virtue of that very folly. PNGRB should refrain from pursuing the agenda of these irrational bidders and disallow any sort of marketing exclusivity.

As may be seen from the following table, revenue of the CGD entity (network builder & operator wing) from tariff stream is no way affected if the business of the CGD entity is effectively unbundled to prevent cross-subsidization. Referring to the table, revenue as accruing to the CGD entity as a network operator is not affected any way even if there are more than one entities making use of the network for distributing gas. The CGD entity has got two different streams of revenues – one from quoted tariff (regulated) and other from marketing margin from sale of gas as a commodity (non-regulated). Of course, separate accounts are required to be maintained for both to prevent cross-subsidization.

It may be noted that once marketing business is effectively unbundled, say, through creation of a suitable Special Purpose Vehicle by the authorized entity, then this SPV will be treated as a virtual Third party and so liable to pay to its network operator wing transportation charges at mandated tariff for gas volume distributed by it through the network. The said SPV will enjoy freedom to maximize its gas sale volume by keeping delivered cost to the consumers at an attractive level as compared to other competing entities in the loop (E-1 &E-2). Same way, entities E-1 & E-2 will strive to maximise

A B Singh,
Techno India Vision, Vadodara,
their revenues by way of marketing margins by selling more and more gas by attracting more consumers to them by offering gas at a more reasonable cost. Such an access to the network will foster a healthy competitive environment in CGD sector and benefit the consumers.

This approach which is indeed based on the basic objectives and principles enshrined in PNGRB Act has, for some unknown reasons, not been practiced in CGD space as yet but CERC, the regulator for distribution and transmission network for electricity, has been following this practice for quite some time as quoted above. PNGRB must follow now. EU Third Energy Package that has been in force since 2009 and which has already been adopted by most of the nations under the European Union, accords lot of importance to unbundling of businesses of network operator and Energy supplier /traders to bring about greater transparency and benefits to the consumers.

**Table -1: REVENUE FROM NETWORK TARIFF ACCRUING TO AUTHORIZED CGD OPERATOR**

<table>
<thead>
<tr>
<th>Entities using CGD Network</th>
<th>Annual Gas Sale volume</th>
<th>Tariff per unit as quoted by authorized entity</th>
<th>Total Annual Revenue to Network operator from tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorized Entity</td>
<td>Gas marketing wing created by authorized entity as a SPV.</td>
<td>A</td>
<td>T</td>
</tr>
<tr>
<td>Network operator wing of authorized entity</td>
<td>Not applicable.</td>
<td>B</td>
<td>T</td>
</tr>
<tr>
<td>Access to third party - Entity, E-1</td>
<td></td>
<td>C</td>
<td>T</td>
</tr>
</tbody>
</table>

Accordingly, there is no such thing as market exclusivity under the Act - any authorized CGD area is a common carrier from the date of authorization and its network is entitled for an unbridled access by third parties as soon as a network becomes functional. PNGRB should therefore remove a term like “marketing exclusivity” from the draft regulation.

“Marketing Exclusivity” as appearing anywhere in other sections in the draft regulation should be removed appropriately to conform to the comments herewith.

*AB Singh,*  
*Techno India Vision, Vadodara,*
From:

A B Singh,
Techno India Vision, Vadodara,
Mobile No – 9426505365.
Date: 1st Feb, 2018.
Email: singhab05@yahoo.co.in