Report: IGL show cause notice

Comments on affidavit filed by Rajeev Sharma and others

In Response to the Hon'ble Supreme Court Order
Dated February 14, 2003

(**In the matter of W.P.(C) No.13029 of 1985; M.C. Mehta v/s UOI & others**)

March 2003

Environment Pollution (Prevention & Control) Authority
for the National Capital Region

1. EPCA's Mandate

The Hon'ble Supreme Court in its order of February 14, 2003 has directed Environment Pollution (Prevention and Control) Authority (EPCA) to examine the following:

"In view of the affidavit filed by Shri Rajeev Sharma, we deem it fit to get a report from Bhure Lal committee, preferably within two weeks."

- EPCA has examined the affidavit filed by Rajeev Sharma in February 10, 2003.

- It has further considered the following affidavits filed in response to the show cause notice served by the Hon'ble Court on September 9, 2002.

  Affidavit filed by A K De on behalf of Indraprastha Gas ltd (dated October 23, 2002), P S Bhargava (February 13, 2003) and L Lobo (February 11, 2003). Both P S Bhargava and L Lobo have stated in their respective affidavits "explanation submitted by Mr De before this Honb'le Court are adopted by me." (Hereafter these three affidavits are referred to as IGL affidavit).

EPCA has analysed the sequence of events emerging from the April 5, 2002 order and the affidavits filed by IGL, thereafter, to examine if the affidavits from the IGL officials in response to the show cause notice have adequately addressed the key concern of the court -- if IGL would be able to `make available' the Court mandated 16.11 lakh kg of CNG by June 30, 2002, to meet the projected demand in the transport sector in the city.

It is important to point out that the court order of February 14, 2003, which is the basis of this report, should be read in conjunction with the earlier two related court orders that led to the show cause notice -- order of July 29, 2002 and September 9, 2002. These are as follow:

July 29, 2002:

> *"I.G.L. will file an affidavit including as to the extent of their projected sales of CNG. Affidavit be filed within a period of ten days. They will also give justification for projecting their sales at 37 percent of the installed capacity. I.G.L. will also indicate by way of an affidavit as to what are the figures which they gave to the Bhure Lal Committee with regard to the compression capacity and the dispensing capacity".*

Show cause notice of September 9, 2002

> *"…this Court was completely kept in dark and was misled with regard to the correct state of affairs. It was on the basis that the compression capacity and the dispensing capacity was one and the same, and, with the increase in supply of gas, the company would be able to dispense greater quantity of CNG to the consumers, that various orders were passed by this Court. There is no expression of regret or remorse for the incorrect information having been supplied to this Court. We, therefore, issue notice to the Shri A.K. De, Managing Director of IGL to show cause why*

appropriate action should not be taken against him and the company for having misled this Court in passing various orders. Notices be issued to Shri Rajeev Sharma, Shri L. Lobo and Shri P.S. Bhargava."

EPCA's observations are presented in this report.

This report is divided into three parts:

Part I: Sequence of events that led to the show cause notice.

Part 2: Examination of the affidavit from Rajeev Sharma and the IGL affidavit under consideration

Part 3: Detailed examination of issues

Part I: Sequence of events leading to show cause notice

Supreme Court order of April 5, 2002: The apex court directs IGL to "make available" 16.11 lakh kg of natural gas to the transport sector by June 2002.

CNG price hike in April: CNG prices were raised from Rs 13.11 per kg to Rs 16.83 per kg on April 28, 2002.

IGL affidavit of May 7, 2002, IGL submitted a status report to the court in which they justified their recent price hike citing such reasons as manufacturing costs, laying of pipeline, capital and operating costs. IGL further submitted that it would be able to compress 16.11 lakh kg of CNG only in June 2003.

Supreme Court order of May 9, 2002: In this order the Hon'ble Court took strong note of the price hike and also the fact that IGL was not able to dispense enough CNG to the transport sector thus resulting in long queues. The court directed EPCA to examine the following:

"Investigate the pricing of CNG as done by the IGL and give report to this court whether there is any justification for the figure of Rs 16.83 per kg. In giving this report the Bhure Lal Committee should take into consideration the price at which petrol, diesel and kerosene are sold in Delhi. It will also indicate as to what extent of subsidy or cross subsidization, if any, given by the Central Government in respect of petrol, diesel or kerosene as compared to CNG."

"Learned Amicus Curiae draws our attention to the practice, which is prevalent in some other countries to the effect that tax concessions are given in respect of CNG so as to encourage the use of said fuel in an effort to bring down pollution, a topic about which the government seems to have little concern."

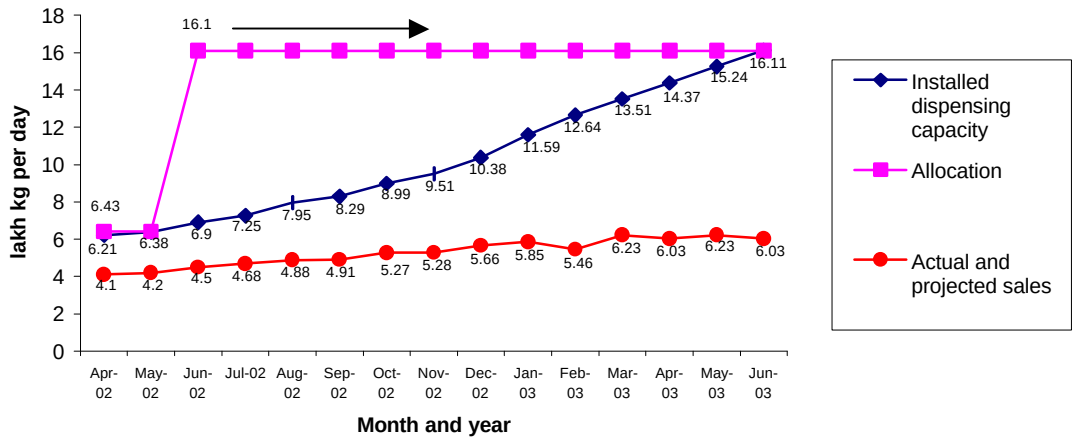
"The Indraprastha Gas Ltd and the Union of India shall furnish to Bhure Lal Committee any particular which are asked for by the said committee. The Bhure Lal Committee will be at liberty to take assistance from any cost accountant or any other expert in the matter."

EPCA report on CNG pricing "Getting the Prices Right" July 2002: The key submission of EPCA that subsequently resulted in the show cause notice is regarding the discrepancy that it noticed between the court mandated allocation of gas for the transport sector in Delhi (16.11 lakh kg per day) and the projected sales estimated by IGL. (see graph 1). On the basis of this EPCA pointed out the following:

- The gap between installed capacity and actual sales is increasing over time and IGL expects to sell much less than the Court mandated target of 16.11 lakh kg per day. In June 2002, at the time of the preparation of the pricing report the capacity utilisation was 65 per cent as per IGL's submission. But IGL projected sales at 37 per cent capacity utilization by June 2003.

- EPCA questioned why IGL was showing low sales? Was it to justify the price hike since low sales meant low profits and thus the need for higher prices to recover cost of investments. Profits would result from increasing sales and building an infrastructure capable of efficient delivery.

Graph 1: Allocation, installed capacity and projected sales of CNG



Source: IGL affidavit of May 2002, and letter to EPCA as cited in the EPCA report Getting the Prices Right, June 2002

Order of July 29, 2002: In response to this discrepancy as pointed out in the pricing report the Hon'ble court sought the following explanation from IGL.

> *"I.G.L. will file an affidavit including as to the extent of their projected sales of CNG. They will also give justification for projecting their sales at 37 percent of the installed capacity. I.G.L. will also indicate by way of an affidavit as to what are the figures which they gave to*

the Bhure Lal Committee with regard to the compression capacity and the dispensing capacity".

IGL affidavits of August 8 and August 12, 2002: Following this court order IGL submits two affidavits to justify it's low capacity utilisation in the following manner:

1. World-wide experience shows that "sales/offtake as a percentage of compression capacity varies between 24-45 per cent, based on 24 hours working and between 32-46 per cent based on 18 hours working. For example, in Argentina where the number of vehicles on CNG are the maximum, sales/off-take as a percentage of compression capacity has varied from 24 per cent to 29 per cent based on 24 hours working and 32 per cent and 39 percent based on 18 hours working." (IGL affidavits of August 8).
2. IGL further submitted in the same affidavit of August 8 2002, "It is submitted that because sales / off take is 66-68 per cent of the compression capacity, there are long queues at CNG stations" "It was estimated that for comfortable fuelling (generally without queue or maximum waiting period of 10-15 minutes during the peak period), the sales/off take should be around 40 per cent of the compression capacity. "(IGL affidavits of August 8).

In its affidavit of August 12, 2002 IGL made point by point reply to EPCA's pricing report. Even in this affidavit, IGL continued to hold that it would achieve the target of setting compression capacity of 16.11 lakh kg per day by June 2003. "It is submitted that 16.11 lakh kg per day is the quantity directed to be made available in the NCT of Delhi for the use by the transport sector. This represents the compression capacity that will be ultimately provided by the IGL. Although at one point of time it was, perhaps, anticipated that the actual demand will rise to 16.11 lakh per day, the experience gained in 2001-2002 and subsequently does not indicate that the actual demand will rise to 16.11 lakh kg per day." (IGL affidavit of August 12, 2002)

IGL further justified the price hike by stating, "It is submitted that EPCA has rightly observed that the CNG project was conceived under tremendous time pressure and, therefore, the initial problems. However, the deponent has geared up all its resources and, after having invested Rs 203 crores in the project, the deponent intends to invest a further sum of Rs 319 crores before June 2003. Therefore, for this further investment, the deponent would require additional funds. Besides, the equity and the debt have to be serviced. Hence, it is respectfully submitted that the decision of the deponent to increase the sale price to Rs 16.83 per kg, is a fair and reasonable decision, and has been broadly endorsed by the EPCA." (IGL affidavit of August 12, 2002)

It is in this context EPCA would like to point out that IGL revised the demand projection by lowering per vehicle per day utilisation of gas to project less demand and thereby sales. For instance, gas demand per bus per day was reduced from 70-80 kg per day (stated in their presentation to the EPCA on July 14, 2001) to 51.3 kg per day (presentation by IGL to EPCA June 2002).

Supreme court issues show cause notice to IGL officials on September 9, 2002

Both the affidavits of IGL (August 8, 2002 and August 12, 2002) failed to convey to the Hon'ble court if it would actually be able to `make available' 16.11 lakh kg per day as

mandated. So the Court issued the following show cause notice by person to the concerned officials of IGL:

> *"…this Court was completely kept in dark and was misled with regard to the correct state of affairs. It was on the basis that the compression capacity and the dispensing capacity was one and the same, and, with the increase in supply of gas, the company would be able to dispense greater quantity of CNG to the consumers, that various orders were passed by this Court. There is no expression of regret or remorse for the incorrect information having been supplied to this Court. We, therefore, issue notice to the Shri A.K. De, Managing Director of IGL to show cause why appropriate action should not be taken against him and the company for having misled this Court in passing various orders. Notices be issued to Shri Rajeev Sharma, Shri L Lobo and Shri P.S. Bhargava."*

These officials have filed their affidavits in response to the show cause notice.

In this context of the sequence of events just outlined EPCA feels that the issues of importance are as follow:

1.The Hon'ble Court would like to be apprised if IGL would be able to `make available' or sell 16.11 lakh kg of gas per day as mandated by the Hon'ble Court *irrespective of making the distinction between its capacity to compress and capacity to dispense*. (The ministry of petroleum and natural gas had made this demand projection in its affidavit in April 2001.)

2. This formal distinction between dispensing capacity and compression capacity was made when CNG price hike was being investigated by EPCA. This distinction was made by IGL to prove that since it expected to sell much less than the Court mandated 16.11 lakh kg per day, and thus earn less despite making large investments, CNG price hike was justified. Since this has a serious bearing on the pricing of CNG itself it is important to clear the confusion over terminologies and verify how much can IGL sell or `make available' as the Hon'ble Court has asked for.

3. The possible increase in sales is yet again linked to potential demand for CNG that exists. Increase in the number of CNG vehicles and consequent rise in demand for CNG would be largely influenced by the CNG prices, convenient refuelling facilities, favourable policy framework to encourage CNG conversion and the aggressive marketing strategy of IGL itself. In this context therefore, a pricing policy to keep the prices of CNG competitive along with efficient delivery of CNG are of crucial importance.

EPCA will examine the affidavits filed by the IGL officials in the context of these issues.

3. Examination of the two affidavits under consideration

The affidavits filed by Rajeev Sharma, A K De, P S Bhargava and L Lobo have sought apology for any confusion arising out of the information furnished by IGL.

However, these affidavits have offered explanations of the terminologies – dispensing and compression capacity. Details are as follow:

Submissions from Rajeev Sharma (Affidavit of February 10, 2003)

- Rajeev Sharma, in his affidavit of February 2003, underscores the following:

i. "We have been using the terminology compression capacity to mean quantity of CNG that is manufactured by total 18 hours of running of the CNG compressor in a day i.e. 24 hours. This is really 75 percent of the capacity of the CNG compressor if it is operated for full 24 hours in a day and if there are no other constraints in manufacturing this much quantity of CNG."

ii. "It is very much possible to actually dispense this quantity of CNG thus manufactured."

iii. "In IGL we have been using the words `compression capacity' and `dispensing capacity' **interchangeably** and freely meaning thereby the potential capacity of the CNG station, and for that matter of entire IGL, the quantity of CNG that can be manufactured by all the CNG compressors of IGL by operating them for 18 hours in a day."

iv. The following were noted in the affidavit as the functions of actual dispensing of CNG:
   a. Amount of gas that a compressor can compress: "The natural gas compressed by a compressor at a CNG station is not being stored at that station and cannot be stored for use at that station as in the case of liquid fuels. The amount of natural gas compressed by a compressor at a CNG station can only be dispensed through the dispensers at the station."
   b. "As per the station design of IGL CNG stations, compressor will only stop operating when there is no dispensing or off-take of CNG."
   c. "To reduce frequent start and stop of compressor, a stationary storage cascade is provided in between compressor and dispenser, so that compressor can run in case of no CNG dispensing. The capacity of the storage cascade is usually approximately equal to 25-30 minutes compression capacity of the compressor."
   d. "Compressor can run only when dispensing of CNG is in progress. When there is no dispensing of CNG compressor will stop. When there is no vehicle available for CNG fuelling at a station, compressor will stop automatically. There may be occasions that compressor stops running due to un-availability of vehicles for fuelling. "
   e. "The compressor at a particular station is designed in the way that it can take care of total dispensing through bus and car/auto dispensers installed at that station." "Compressor will stop frequently if the dispensing is being done only through car/auto dispensing arms and not through bus dispensing arm. This is because the total off-take from car/auto dispensers is not sufficient to keep the compressor running. There may be occasions that compressor stops running due to less off-take of CNG at that station, because of unavailability of required mix and number of vehicles."

v. "The CNG station is designed so as to have a maximum rate of dispensation (of all the dispensers together) higher than the rate of compression of the compressors. Hence, at the CNG station, the limits of the rate of dispensation are set by the rate of compression of the compressor, therefore, the

compression capacity of compressor and the dispensing capacity of the CNG station is the same."

vi. "There are many occasions when the dispensing is being done more than 100 per cent of the compression capacity because compression capacity is calculated on 18 hours of compressor running and dispensation is done more than 18 hours."

vii. "As per the information available that time 50 per cent off-take of the capacity of compressor was desirable."

On the basis of this Rajeev Sharma submits, "however if any study conducted IGL later which suggests lesser utilisation of compression capacity, I am not aware of the same".

Submissions in the IGL affidavit (October 2002, February 11, February 13 2003)

A K De, L Lobo and P S Bhargava in their responses have made the following submission:

1. "On the issue of confusion on compression capacity and dispensing capacity I submit that the compression capacity can be defined in the following manner:

a. "The amount of compressed natural gas (CNG) which can be manufactured by running a CNG compressor continuously at its rated capacity for a certain number of hours (usually 24 hours) is the compression capacity of a compressor." "In case of IGL, we have been using the phrase compression capacity to mean the quantity of CNG that is manufactured by running the CNG compressor continuously for 18 hours a day."

b. "However, the dispensing of CNG at a station is a function of, among the other factors, i) quantity of CNG that has been produced by the compressor at the station ii) average flow rate of dispensers installed at the station for dispensation of CNG, iii) rate of inflow of vehicles for fuelling at the station and iv) type and mix of the vehicles arriving at the station."

2. "IGL had erroneously used the phrases compression capacity and dispensing capacity **interchangeably**, and it is humbly submitted that IGL and I may kindly be pardoned for the lapses."

3. "If compressors have frequent start and stoppages that would affect the life of the compressor."

4. "The phrase dispensing capacity was really meant to be compression capacity of IGL. In all the above paragraphs the phrase dispensing capacity or capacity to dispense may kindly be taken as compression capacity of IGL."

5. "The appropriate and accurate way of describing the phrase `dispensing capacity' will be to look at the sales/off-take of CNG as a percentage of 'compression capacity` In the affidavit of August 8, 2002, IGL has mentioned that the sales/off-take as a percentage of compression capacity, is estimated to be around 40 percent, is likely result in comfortable fuelling of vehicles. The basis of this is the information gathered from other

countries." With commissioning of 12 inch gas pipeline in West Delhi and with the installation of the CNG compressors, as the augmentation plan submitted to Hon'ble Supreme Court vide IGL's affidavit dated 7th May 2002 will be able to bring about significant improvement in CNG compression capacity."

4. Observations of EPCA on two affidavits

From the explanations available from the concerned officials the problem appears to be one of consistent lack of clarity in the intended meaning of `dispensing capacity' and `compression capacity'. While Rajeev Sharma in his affidavit says that the terms have been used interchangeably, IGL affidavit says that IGL has erroneously used these terms interchangeably and should be excused.

On further scrutiny of the two affidavits, it becomes clear that both parties are in actual fact, in total agreement. The fact is that both are distinguishing between:

a. The **capacity/capability to dispense gas**, which is dependent on the compressors as well as the related infrastructure like dispensers, location of stations etc needed to dispense gas efficiently, without long queues, and;
b. Additionally the **actual offtake of gas**, which is dependent on the number and sizes of vehicles coming for refuelling, in other words, the actual sales.

In this context, both affidavits (Rajeev Sharma and IGL affidavit) state that what is compressed can be dispensed but the actual dispensing can vary according to demand. IGL contends that actual off take depends on "rate of inflow of vehicles for fuelling at the station and type and mix of the vehicles arriving at the station." Rajeev Sharma submits, "number of vehicles coming for refuelling will determine actual off-take."

Additional points that these affidavits raise are:

- Rajeev Sharma states that what is compressed should be and can be dispensed as CNG once manufactured in the station cannot be stored. If continuous dispensing is not assured then this will lead to frequent stoppage of compressors. He suggests that actual off-take should be at least 50 per cent of the installed compression capacity would be desirable to avoid this problem.
- IGL affidavit does not address this point.

In these submissions the key issue that has not been addressed is whether IGL would be able to `make available' 16.11 lakh kg (2 mmscmd) of gas as mandated by the Hon'ble Court? In other words, would IGL need to expand its compression capacity further if it needs to make available 16.11 lakh kg per day?

If the EPCA were to interpret the submissions in the IA of IGL that "comfortable" refuelling would need 40-45 per cent capacity utilisation, then EPCA would estimate that to make available 16.11 lakh kg per day would require a compression capacity of 35.8 lakh kg per day. In other words, this would also mean that with compression capacity of 16.11 lakh kg per day, IGL could dispense only 6.5 lakh kg per day "comfortably".

Part 3. Detailed examination of issues

In this context EPCA would like to draw the attention of the Hon'ble Court to the following issues:

A. Is IGL justified in projecting a reduced sale of gas?

1. As mentioned earlier, lack of clarity on the issue of dispensing and compression capacity is the key issues in the context of pricing of CNG. This distinction was made by IGL to prove that since it expected to sell much less than the Court mandated amount of 16.11 lakh kg per day, their revenue would be much less while capital cost of creating the infrastructure to dispense gas would increase. The justification given to EPCA for the price hike was that the sale of gas in 2003-04 in the realistic scenario would be 6.04 lakh kg per day and in the optimistic scenario would be 7.17 lakh kg per day.

2. In its pricing report EPCA had questioned this basis on the ground that IGL was not justified in projecting such low sales because of lack of adequate demand. It is important to reiterate this point. In its report on pricing, EPCA had pointed out "that the unique feature of the Delhi CNG market is that it is a Court mandated market and conversion of 10,000 buses to CNG is mandatory. More cars and autos are also expected to switch over to CNG in the years to come especially if the government comes up with appropriate incentives for such conversion in the interest of the environment. The gas should be made available and for this necessary infrastructure should be provided for convenient filling of vehicles."

In EPCA's view IGL had underestimated the market potential in the following manner:

i. Low demand for CNG

At the time of the preparation of the CNG pricing report, IGL in its submission to EPCA had revised the amount of CNG utilised by each category of vehicle per day to state that demand for gas in Delhi was much lower than the Supreme Court mandate. For instance, IGL lowered its estimate from 70 kg of gas per bus per day as stated in their submission of July 2001 to 51.30 kg per bus per day in their presentation submitted in June 2002. This made a major difference to estimated share of demand for buses in CNG consumption. IGL argued for instance based on a survey conducted in April 2002, that all buses do not come for refuelling everyday. This could be true for dedicated school buses, which are about 800 in numbers not the rest.

ii. Underestimation of numbers of vehicles and utilisation of CNG

IGL also lowered its estimates of potential growth in the number of CNG vehicles. IGL's sale projections, as per their submission to EPCA during June 2002 were based on the assumption that only 300 buses, 400 autos, 500 cars, 100 taxis and 75 RTVs would be inducted into the fleet every month. This was in contrast to the Court order dated April 5, 2002 that had directed that 800 CNG buses be phased in every month. IGL however considered a more optimistic scenario in which it included the court order i.e. induction of 800 buses per month without changing the numbers of other vehicles.

The Transport Department, GNTDC, of the Delhi government has informed EPCA, that based on the registration of vehicles, the estimated level of demand as in February 2003 was 10.84 lakh kg per day (Table 1).

Table 1: Estimated CNG demand in February 2003: Transport Department of Delhi

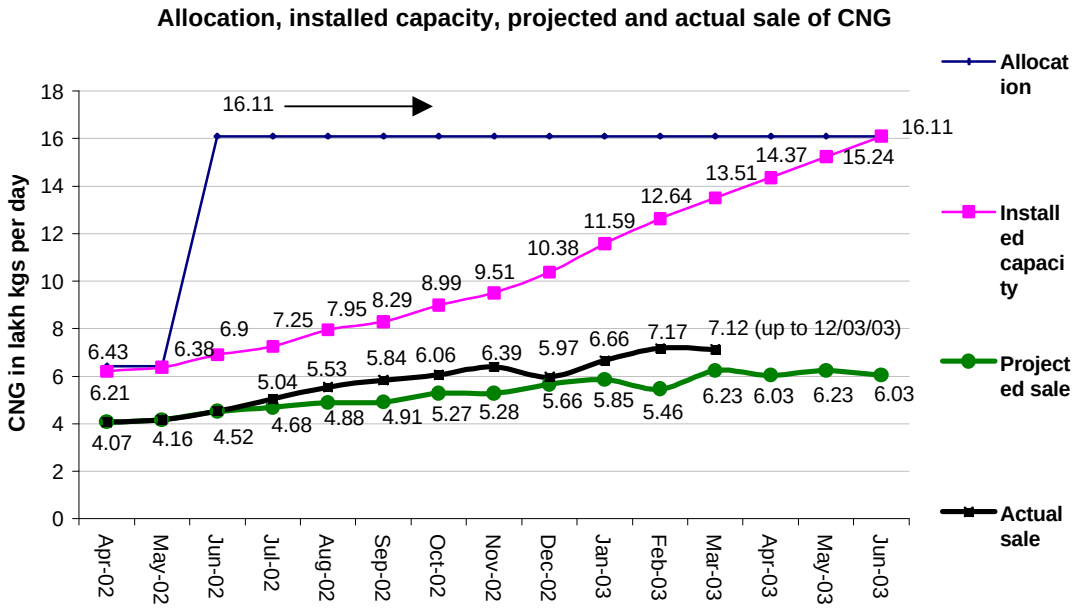
Vehicle category	**Number of CNG vehicles**	**CNG in kg required per vehicle per day**	**CNG requirement**
Buses	8,686	70	7.63 lakh kg per day
Mini buses	4,629	18	
Autorickshaws	45,950	5	3.21 lakh kg per day
Taxi	3,648	10	
Maxi cab	735	10	
Total	**63,648 vehicles**		**10.84 lakh kg per day**

Source: 2003, Transport department, GNTDC *issue update: CNG demand and supply,* Submitted to EPCA

But on examination of the matter further EPCA finds that currently, (in February 2003), IGL is selling more than what it had projected for this period.

In May 2002, IGL had projected to sell 5.64 lakh kg per day in February 2003. But according to the submission of IGL to EPCA on March 2003, IGL's actual sales have already reached 7.17 lakh kg per day in February, 2003, while the installed compression capacity for the same period is 11.77 lakh kg per day.

Graph 2:



References: 1. IGL Affidavit May 2002. 2. IGL July 2002, submissions to EPCA on pricing hike issue, 3. IGL's EPCA presentation and submissions March 2003

In this perspective the actual revenue earning of IGL is expected to be higher than what was computed by IGL to justify the price increase. EPCA in its report had pointed out that ***even with a slight increase in CNG sales***, revenue from sales would increase significantly.

It had calculated to show how with increased sales from 6.04 lakh kg per day to 7.33 lakh kg per day, after tax profits at the current price of Rs 16.83 per kg would increase from Rs 19.30 crore in 2003-04 to Rs 44.90 crore in the same year (see table 2).

By their own estimates, at the level of February 2003 sales of 7.17 lakh kg per day, IGL profits should increase from Rs 19.30 crores to Rs 41.70 crores for the year 2003-04.

Table 2: Impact of increased sales of CNG on revenue generation – 2003-04

Avg Daily Sales (lakh kg per day)	**6.04#**	**6.20**	**6.36**	**6.52**	**6.68**	**6.85**	**7.01**	**7.17##**	**7.33**
Revenue Rs/Cr	370.8	380.9	390.7	400.5	410.3	420.8	430.6	440.42	450.3
Excise duty	51.1	52.5	53.9	55.2	56.6	58.0	59.4	60.75	62.1
Provision for tax	11.2	13.1	14.9	16.8	18.6	20.6	22.5	24.3	26.1
Profit after tax	**19.3**	22.5	25.7	**28.8**	32.0	35.4	**38.6**	41.7	44.9

 # Average sale figures projected for the FY 2003-04 by IGL (realistic projections)

Average sale figures projected for the FY 2003-04 by IGL (Optimistic projections)

Source: Computed on the basis of data provided by IGL in its reply to Chairman, EPCA, dated June 6 and July 26 cited in the EPCA report "Getting the Prices Right" July 2002.

B. Is IGL justified in arguing that for "comfortable fuelling" it must plan to utilise only 37-40 per cent of its installed capacity?

In its affidavit (August 8, 2002) to the Hon'ble Court and its submissions to EPCA, IGL has argued that for "comfortable fuelling (generally without queue or at the most waiting period of 10-15 minutes during the peak period), the sales/offtake should be around 40 per cent of the compression capacity." This has been repeated in the subsequent IGL affidavit.

This implies that while IGL would increase its compression capacity to 16.11 lakh kg per day, it would only be able to dispense 6.44 lakh kg per day that is 37 per cent of 16.11 lakh kg per day).

EPCA's observations:

1. The queues were the result of poor planning for infrastructure, which led to inefficient dispensing of CNG.

EPCA had noted in its pricing report, "As of March 2002, IGL had 94 stations, of which as many as 29 stations were daughter stations -- as much as 30 per cent of the total stations. But as per the data provided by IGL itself, these 30 per cent of the stations, sold only 6 per cent of the total gas sales in 2001-02. This is dead investment and part of the infrastructure problem of IGL.

By March 31, 2002, IGL had a total of 26 daughter booster stations, 28 per cent of its infrastructure. But sales of daughter booster in 2001-02, were a mere 8.5 per cent. ***Therefore, roughly, 60 per cent of IGL's built infrastructure sold a mere 14.5 per cent of its gas.*** Clearly, this speaks of the problem.

Moreover, in the 55 odd compressors, installed by March 2002, IGL had invested Rs 65 crore, roughly 32 per cent of its total investment of Rs 203 crore. Most of the compressors are in the daughter booster stations are on wet lease, selling only 8.5 per cent. But the compressors in the mother and online stations, 32 per cent of its investment, is earning 85 per cent of its revenue."

Table 3: Built infrastructure and gas sales: March 31, 2002

S No	Stations	Number[1]	% of stations	% of total gas sold in 2001-02[2]
1.	DTC mother stations	9	9.6	23.5
2.	Mother stations	17	18.0	44.4
3.	Online stations	13	13.8	17.0
4.	Daughter booster	26	27.7	8.5
5.	Daughter	29	31.0	6.1
	Total	**94**		

1. Source: EPCA Report "Getting the Prices Right July 2002, *mimeo*.

In view of the above, EPCA had pointed out that there was already scope for improvement in operational efficiency and investment planning by IGL.

IGL is currently (in February 2003) utilising 61 per cent of its installed capacity, with substantially reduced queues. With a compression capacity of 11.77 lakh kg per day, it is selling 7.17 lakh kg per day. There is no basis to justify that it will need to further build capacity up to 16.11 lakh kg of gas to sell only 6.44 lakh kg per day (see graph 2)

Therefore, in the present context EPCA finds absolutely no justification to support IGL's position that it has to operate at 37 per cent of its installed capacity to enable "comfortable fuelling".

This issue becomes critical for the future expansion of CNG infrastructure in the city. EPCA notes that the situation has indeed improved of late with the extension of the pipeline that has led to conversion of a large number of daughter and daughter booster stations to online and mother stations. This has also led to better spatial spread of fuelling stations. It is imperative for IGL to now take stock of its opportunities and carefully plan to ensure that it is able to dispense gas to the growing market in Delhi.

6. Overall observations

On scrutiny of the affidavits of Rajeev Sharma and IGL, it is clear that there is no disagreement or difference between the two in their various contentions. On the terms, "compression capacity" and "dispensing capacity":

a. The term **compression capacity** means the capacity of the compressor installed to compress gas.
b. The **capacity/capability to dispense gas**, which is dependent on the compressors as well as the related infrastructure like dispensers, location of stations etc needed to dispense CNG efficiently, without long queues, and;
c. In addition the **actual off-take of CNG**, which is dependent on the number and sizes of vehicles coming for refuelling, in other words, the actual sales.

2. The actual sales/off-take of CNG is a critical determinant in the price fixation by the IGL management. In its justification for the increase in price from Rs 13.11 to Rs 16.83 per kg in April 2002, IGL had estimated that it would sell between 6-7 lakh kg of CNG in 2003-04 in its realistic and optimistic scenarios. EPCA has found that in February 2003, the actual sales of CNG is 7.17 lakh kg per day, which is higher than what had been estimated by IGL to compute its annual sales. IGL is also dispensing 61 per cent of its installed capacity.

3. Based on the above, EPCA is now of the view that the decision of IGL in April 2002 to raise the CNG prices cannot be justified, as it assumed a projected sale estimates and capacity utilisation, which is not borne out of the above scrutinised facts. *(Two members have made additional observations in this regard, which are appended to this report).*

4. It must be noted that CNG is a court-mandated market that has established the baseline demand of CNG for the transport sector in Delhi. IGL will ***at the minimum*** sell the amount of gas mandated under the various orders of the court to a fixed number of commercial transport vehicles in the city. A potential demand exists beyond this

minimum sale and IGL will have to work towards realising this market potential with aggressive marketing strategy to remain cost-effective. Otherwise, there is a likelihood of the capital costs of expansion of CNG infrastructure being passed on to the existing consumers, especially commercial transport.

5. The vast infrastructure for CNG delivery has been created not only at enormous financial cost but also at consistent Court, public and government endeavours. This reality has to be recognised by IGL.

6. EPCA is of the view that instead of focusing on the narrow technical distinction between dispensing capacity and compression capacity to justify a conservative projection of sales and demand, it is more important to frame appropriate policies and strategies to increase CNG sales.

7. CNG has been introduced in this city to control particulate pollution. It is therefore, in the interest of public health to encourage large-scale conversion of vehicles to CNG. But the countervailing pressures of the CNG price hike last year, coupled with a tacit policy to actively discourage conversion of private cars to CNG due to poor availability of gas, the long queues at the filling stations has dampened demand for CNG in the city, negating some of the efforts made as cited above. Central and the state governments be directed to submit a phase-in plan to run more vehicles on CNG and actively encourage private vehicles to run on CNG as well. To facilitate this process, appropriate fiscal and economic incentive policy should be designed.

8. The price hike was possible only because of the lack of a regulatory framework for promoting CNG as an autofuel. This bears out the importance of a policy that would safeguard against similar arbitrary decisions to increase prices in the future, which could jeopardise the CNG programme in Delhi.

To safeguard against any further arbitrary price based purely on commercial objectives of the companies supplying CNG, the government must be directed to set up a regulatory and a fiscal mechanism to promote CNG and other environmentally acceptable fuels. EPCA has noted with concern that with deregulation and price reforms underway, there is little elaboration of the issue of CNG as an auto-fuel in official policies to make CNG competitive vis a vis its competing fuels like diesel and petrol. EPCA had earlier noted in its pricing report that CNG would directly compete with diesel more than petrol. As a result, the taxation policy should be designed in a manner that an appropriate and effective price differential is maintained with diesel. The review of the fuel taxation policies round the world shows that “favourable” taxation is an important instrument to maintain the price differential to encourage environmentally acceptable fuels. To underscore this point EPCA would like to reiterate this recommendation already made in the pricing report with regards to the fiscal policy on CNG.

Report: IGL show cause notice

Comments on affidavit filed by Rajeev Sharma and others

In Response to the Hon'ble Supreme Court Order Dated February 14, 2003

(**In the matter of W.P.(C) No.13029 of 1985; M.C. Mehta v/s UOI & others**)

March 2003

Environment Pollution (Prevention & Control) Authority **for the National Capital Region**

1. EPCA's Mandate

The Hon'ble Supreme Court in its order of February 14, 2003 has directed Environment Pollution (Prevention and Control) Authority (EPCA) to examine the following:

"In view of the affidavit filed by Shri Rajeev Sharma, we deem it fit to get a report from Bhure Lal committee, preferably within two weeks."

- EPCA has examined the affidavit filed by Rajeev Sharma in February 10, 2003.

- It has further considered the following affidavits filed in response to the show cause notice served by the Hon'ble Court on September 9, 2002.

  Affidavit filed by A K De on behalf of Indraprastha Gas ltd (dated October 23, 2002), P S Bhargava (February 13, 2003) and L Lobo (February 11, 2003). Both P S Bhargava and L Lobo have stated in their respective affidavits "explanation submitted by Mr De before this Honb'le Court are adopted by me." (Hereafter these three affidavits are referred to as IGL affidavit).

EPCA has analysed the sequence of events emerging from the April 5, 2002 order and the affidavits filed by IGL, thereafter, to examine if the affidavits from the IGL officials in response to the show cause notice have adequately addressed the key concern of the court -- if IGL would be able to `make available' the Court mandated 16.11 lakh kg of CNG by June 30, 2002, to meet the projected demand in the transport sector in the city.

It is important to point out that the court order of February 14, 2003, which is the basis of this report, should be read in conjunction with the earlier two related court orders that led to the show cause notice -- order of July 29, 2002 and September 9, 2002. These are as follow:

July 29, 2002:

> *"I.G.L. will file an affidavit including as to the extent of their projected sales of CNG. Affidavit be filed within a period of ten days. They will also give justification for projecting their sales at 37 percent of the installed capacity. I.G.L. will also indicate by way of an affidavit as to what are the figures which they gave to the Bhure Lal Committee with regard to the compression capacity and the dispensing capacity".*

Show cause notice of September 9, 2002

> *"…this Court was completely kept in dark and was misled with regard to the correct state of affairs. It was on the basis that the compression capacity and the dispensing capacity was one and the same, and, with the increase in supply of gas, the company would be able to dispense greater quantity of CNG to the consumers, that various orders were passed by this Court. There is no expression of regret or remorse for the incorrect information having been supplied to this Court. We, therefore, issue notice to the Shri A.K. De, Managing Director of IGL to show cause why*

appropriate action should not be taken against him and the company for having misled this Court in passing various orders. Notices be issued to Shri Rajeev Sharma, Shri L. Lobo and Shri P.S. Bhargava."

EPCA's observations are presented in this report.

This report is divided into three parts:

Part I: Sequence of events that led to the show cause notice.

Part 2: Examination of the affidavit from Rajeev Sharma and the IGL affidavit under consideration

Part 3: Detailed examination of issues

Part I: Sequence of events leading to show cause notice

Supreme Court order of April 5, 2002: The apex court directs IGL to "make available" 16.11 lakh kg of natural gas to the transport sector by June 2002.

CNG price hike in April: CNG prices were raised from Rs 13.11 per kg to Rs 16.83 per kg on April 28, 2002.

IGL affidavit of May 7, 2002, IGL submitted a status report to the court in which they justified their recent price hike citing such reasons as manufacturing costs, laying of pipeline, capital and operating costs. IGL further submitted that it would be able to compress 16.11 lakh kg of CNG only in June 2003.

Supreme Court order of May 9, 2002: In this order the Hon'ble Court took strong note of the price hike and also the fact that IGL was not able to dispense enough CNG to the transport sector thus resulting in long queues. The court directed EPCA to examine the following:

"Investigate the pricing of CNG as done by the IGL and give report to this court whether there is any justification for the figure of Rs 16.83 per kg. In giving this report the Bhure Lal Committee should take into consideration the price at which petrol, diesel and kerosene are sold in Delhi. It will also indicate as to what extent of subsidy or cross subsidization, if any, given by the Central Government in respect of petrol, diesel or kerosene as compared to CNG."

"Learned Amicus Curiae draws our attention to the practice, which is prevalent in some other countries to the effect that tax concessions are given in respect of CNG so as to encourage the use of said fuel in an effort to bring down pollution, a topic about which the government seems to have little concern."

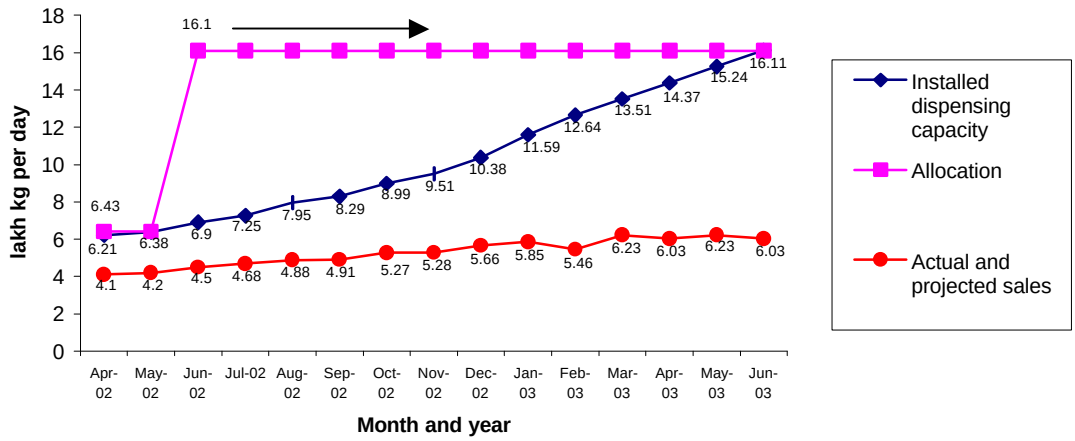
"The Indraprastha Gas Ltd and the Union of India shall furnish to Bhure Lal Committee any particular which are asked for by the said committee. The Bhure Lal Committee will be at liberty to take assistance from any cost accountant or any other expert in the matter."

EPCA report on CNG pricing "Getting the Prices Right" July 2002: The key submission of EPCA that subsequently resulted in the show cause notice is regarding the discrepancy that it noticed between the court mandated allocation of gas for the transport sector in Delhi (16.11 lakh kg per day) and the projected sales estimated by IGL. (see graph 1). On the basis of this EPCA pointed out the following:

- The gap between installed capacity and actual sales is increasing over time and IGL expects to sell much less than the Court mandated target of 16.11 lakh kg per day. In June 2002, at the time of the preparation of the pricing report the capacity utilisation was 65 per cent as per IGL's submission. But IGL projected sales at 37 per cent capacity utilization by June 2003.

- EPCA questioned why IGL was showing low sales? Was it to justify the price hike since low sales meant low profits and thus the need for higher prices to recover cost of investments. Profits would result from increasing sales and building an infrastructure capable of efficient delivery.

Graph 1: Allocation, installed capacity and projected sales of CNG



Source: IGL affidavit of May 2002, and letter to EPCA as cited in the EPCA report Getting the Prices Right, June 2002

Order of July 29, 2002: In response to this discrepancy as pointed out in the pricing report the Hon'ble court sought the following explanation from IGL.

> *"I.G.L. will file an affidavit including as to the extent of their projected sales of CNG. They will also give justification for projecting their sales at 37 percent of the installed capacity. I.G.L. will also indicate by way of an affidavit as to what are the figures which they gave to*

the Bhure Lal Committee with regard to the compression capacity and the dispensing capacity".

IGL affidavits of August 8 and August 12, 2002: Following this court order IGL submits two affidavits to justify it's low capacity utilisation in the following manner:

3. World-wide experience shows that "sales/offtake as a percentage of compression capacity varies between 24-45 per cent, based on 24 hours working and between 32-46 per cent based on 18 hours working. For example, in Argentina where the number of vehicles on CNG are the maximum, sales/off-take as a percentage of compression capacity has varied from 24 per cent to 29 per cent based on 24 hours working and 32 per cent and 39 percent based on 18 hours working." (IGL affidavits of August 8).

4. IGL further submitted in the same affidavit of August 8 2002, "It is submitted that because sales / off take is 66-68 per cent of the compression capacity, there are long queues at CNG stations" "It was estimated that for comfortable fuelling (generally without queue or maximum waiting period of 10-15 minutes during the peak period), the sales/off take should be around 40 per cent of the compression capacity. "(IGL affidavits of August 8).

In its affidavit of August 12, 2002 IGL made point by point reply to EPCA's pricing report. Even in this affidavit, IGL continued to hold that it would achieve the target of setting compression capacity of 16.11 lakh kg per day by June 2003. "It is submitted that 16.11 lakh kg per day is the quantity directed to be made available in the NCT of Delhi for the use by the transport sector. This represents the compression capacity that will be ultimately provided by the IGL. Although at one point of time it was, perhaps, anticipated that the actual demand will rise to 16.11 lakh per day, the experience gained in 2001-2002 and subsequently does not indicate that the actual demand will rise to 16.11 lakh kg per day." (IGL affidavit of August 12, 2002)

IGL further justified the price hike by stating, "It is submitted that EPCA has rightly observed that the CNG project was conceived under tremendous time pressure and, therefore, the initial problems. However, the deponent has geared up all its resources and, after having invested Rs 203 crores in the project, the deponent intends to invest a further sum of Rs 319 crores before June 2003. Therefore, for this further investment, the deponent would require additional funds. Besides, the equity and the debt have to be serviced. Hence, it is respectfully submitted that the decision of the deponent to increase the sale price to Rs 16.83 per kg, is a fair and reasonable decision, and has been broadly endorsed by the EPCA." (IGL affidavit of August 12, 2002)

It is in this context EPCA would like to point out that IGL revised the demand projection by lowering per vehicle per day utilisation of gas to project less demand and thereby sales. For instance, gas demand per bus per day was reduced from 70-80 kg per day (stated in their presentation to the EPCA on July 14, 2001) to 51.3 kg per day (presentation by IGL to EPCA June 2002).

Supreme court issues show cause notice to IGL officials on September 9, 2002

Both the affidavits of IGL (August 8, 2002 and August 12, 2002) failed to convey to the Hon'ble court if it would actually be able to `make available' 16.11 lakh kg per day as

mandated. So the Court issued the following show cause notice by person to the concerned officials of IGL:

> *"…this Court was completely kept in dark and was misled with regard to the correct state of affairs. It was on the basis that the compression capacity and the dispensing capacity was one and the same, and, with the increase in supply of gas, the company would be able to dispense greater quantity of CNG to the consumers, that various orders were passed by this Court. There is no expression of regret or remorse for the incorrect information having been supplied to this Court. We, therefore, issue notice to the Shri A.K. De, Managing Director of IGL to show cause why appropriate action should not be taken against him and the company for having misled this Court in passing various orders. Notices be issued to Shri Rajeev Sharma, Shri L Lobo and Shri P.S. Bhargava."*

These officials have filed their affidavits in response to the show cause notice.

In this context of the sequence of events just outlined EPCA feels that the issues of importance are as follow:

1.The Hon'ble Court would like to be apprised if IGL would be able to `make available' or sell 16.11 lakh kg of gas per day as mandated by the Hon'ble Court *irrespective of making the distinction between its capacity to compress and capacity to dispense*. (The ministry of petroleum and natural gas had made this demand projection in its affidavit in April 2001.)

2. This formal distinction between dispensing capacity and compression capacity was made when CNG price hike was being investigated by EPCA. This distinction was made by IGL to prove that since it expected to sell much less than the Court mandated 16.11 lakh kg per day, and thus earn less despite making large investments, CNG price hike was justified. Since this has a serious bearing on the pricing of CNG itself it is important to clear the confusion over terminologies and verify how much can IGL sell or `make available' as the Hon'ble Court has asked for.

3. The possible increase in sales is yet again linked to potential demand for CNG that exists. Increase in the number of CNG vehicles and consequent rise in demand for CNG would be largely influenced by the CNG prices, convenient refuelling facilities, favourable policy framework to encourage CNG conversion and the aggressive marketing strategy of IGL itself. In this context therefore, a pricing policy to keep the prices of CNG competitive along with efficient delivery of CNG are of crucial importance.

EPCA will examine the affidavits filed by the IGL officials in the context of these issues.

3. Examination of the two affidavits under consideration

The affidavits filed by Rajeev Sharma, A K De, P S Bhargava and L Lobo have sought apology for any confusion arising out of the information furnished by IGL.

However, these affidavits have offered explanations of the terminologies – dispensing and compression capacity. Details are as follow:

Submissions from Rajeev Sharma (Affidavit of February 10, 2003)

- Rajeev Sharma, in his affidavit of February 2003, underscores the following:

viii. "We have been using the terminology compression capacity to mean quantity of CNG that is manufactured by total 18 hours of running of the CNG compressor in a day i.e. 24 hours. This is really 75 percent of the capacity of the CNG compressor if it is operated for full 24 hours in a day and if there are no other constraints in manufacturing this much quantity of CNG."

ix. "It is very much possible to actually dispense this quantity of CNG thus manufactured."

x. "In IGL we have been using the words `compression capacity' and `dispensing capacity' **interchangeably** and freely meaning thereby the potential capacity of the CNG station, and for that matter of entire IGL, the quantity of CNG that can be manufactured by all the CNG compressors of IGL by operating them for 18 hours in a day."

xi. The following were noted in the affidavit as the functions of actual dispensing of CNG:
   a. Amount of gas that a compressor can compress: "The natural gas compressed by a compressor at a CNG station is not being stored at that station and cannot be stored for use at that station as in the case of liquid fuels. The amount of natural gas compressed by a compressor at a CNG station can only be dispensed through the dispensers at the station."
   b. "As per the station design of IGL CNG stations, compressor will only stop operating when there is no dispensing or off-take of CNG."
   c. "To reduce frequent start and stop of compressor, a stationary storage cascade is provided in between compressor and dispenser, so that compressor can run in case of no CNG dispensing. The capacity of the storage cascade is usually approximately equal to 25-30 minutes compression capacity of the compressor."
   d. "Compressor can run only when dispensing of CNG is in progress. When there is no dispensing of CNG compressor will stop. When there is no vehicle available for CNG fuelling at a station, compressor will stop automatically. There may be occasions that compressor stops running due to un-availability of vehicles for fuelling. "
   e. "The compressor at a particular station is designed in the way that it can take care of total dispensing through bus and car/auto dispensers installed at that station." "Compressor will stop frequently if the dispensing is being done only through car/auto dispensing arms and not through bus dispensing arm. This is because the total off-take from car/auto dispensers is not sufficient to keep the compressor running. There may be occasions that compressor stops running due to less off-take of CNG at that station, because of unavailability of required mix and number of vehicles."

xii. "The CNG station is designed so as to have a maximum rate of dispensation (of all the dispensers together) higher than the rate of compression of the compressors. Hence, at the CNG station, the limits of the rate of dispensation are set by the rate of compression of the compressor, therefore, the

compression capacity of compressor and the dispensing capacity of the CNG station is the same."

xiii. "There are many occasions when the dispensing is being done more than 100 per cent of the compression capacity because compression capacity is calculated on 18 hours of compressor running and dispensation is done more than 18 hours."

xiv. "As per the information available that time 50 per cent off-take of the capacity of compressor was desirable."

On the basis of this Rajeev Sharma submits, "however if any study conducted IGL later which suggests lesser utilisation of compression capacity, I am not aware of the same".

Submissions in the IGL affidavit (October 2002, February 11, February 13 2003)

A K De, L Lobo and P S Bhargava in their responses have made the following submission:

1. "On the issue of confusion on compression capacity and dispensing capacity I submit that the compression capacity can be defined in the following manner:

c. "The amount of compressed natural gas (CNG) which can be manufactured by running a CNG compressor continuously at its rated capacity for a certain number of hours (usually 24 hours) is the compression capacity of a compressor." "In case of IGL, we have been using the phrase compression capacity to mean the quantity of CNG that is manufactured by running the CNG compressor continuously for 18 hours a day."

d. "However, the dispensing of CNG at a station is a function of, among the other factors, i) quantity of CNG that has been produced by the compressor at the station ii) average flow rate of dispensers installed at the station for dispensation of CNG, iii) rate of inflow of vehicles for fuelling at the station and iv) type and mix of the vehicles arriving at the station."

2. "IGL had erroneously used the phrases compression capacity and dispensing capacity **interchangeably**, and it is humbly submitted that IGL and I may kindly be pardoned for the lapses."

3. "If compressors have frequent start and stoppages that would affect the life of the compressor."

4. "The phrase dispensing capacity was really meant to be compression capacity of IGL. In all the above paragraphs the phrase dispensing capacity or capacity to dispense may kindly be taken as compression capacity of IGL."

5. "The appropriate and accurate way of describing the phrase `dispensing capacity' will be to look at the sales/off-take of CNG as a percentage of 'compression capacity` In the affidavit of August 8, 2002, IGL has mentioned that the sales/off-take as a percentage of compression capacity, is estimated to be around 40 percent, is likely result in comfortable fuelling of vehicles. The basis of this is the information gathered from other

countries." With commissioning of 12 inch gas pipeline in West Delhi and with the installation of the CNG compressors, as the augmentation plan submitted to Hon'ble Supreme Court vide IGL's affidavit dated 7th May 2002 will be able to bring about significant improvement in CNG compression capacity."

4. Observations of EPCA on two affidavits

From the explanations available from the concerned officials the problem appears to be one of consistent lack of clarity in the intended meaning of `dispensing capacity' and `compression capacity'. While Rajeev Sharma in his affidavit says that the terms have been used interchangeably, IGL affidavit says that IGL has erroneously used these terms interchangeably and should be excused.

On further scrutiny of the two affidavits, it becomes clear that both parties are in actual fact, in total agreement. The fact is that both are distinguishing between:

c. The **capacity/capability to dispense gas**, which is dependent on the compressors as well as the related infrastructure like dispensers, location of stations etc needed to dispense gas efficiently, without long queues, and;
d. Additionally the **actual offtake of gas**, which is dependent on the number and sizes of vehicles coming for refuelling, in other words, the actual sales.

In this context, both affidavits (Rajeev Sharma and IGL affidavit) state that what is compressed can be dispensed but the actual dispensing can vary according to demand. IGL contends that actual off take depends on "rate of inflow of vehicles for fuelling at the station and type and mix of the vehicles arriving at the station." Rajeev Sharma submits, "number of vehicles coming for refuelling will determine actual off-take."

Additional points that these affidavits raise are:

- Rajeev Sharma states that what is compressed should be and can be dispensed as CNG once manufactured in the station cannot be stored. If continuous dispensing is not assured then this will lead to frequent stoppage of compressors. He suggests that actual off-take should be at least 50 per cent of the installed compression capacity would be desirable to avoid this problem.
- IGL affidavit does not address this point.

In these submissions the key issue that has not been addressed is whether IGL would be able to `make available' 16.11 lakh kg (2 mmscmd) of gas as mandated by the Hon'ble Court? In other words, would IGL need to expand its compression capacity further if it needs to make available 16.11 lakh kg per day?

If the EPCA were to interpret the submissions in the IA of IGL that "comfortable" refuelling would need 40-45 per cent capacity utilisation, then EPCA would estimate that to make available 16.11 lakh kg per day would require a compression capacity of 35.8 lakh kg per day. In other words, this would also mean that with compression capacity of 16.11 lakh kg per day, IGL could dispense only 6.5 lakh kg per day "comfortably".

Part 3. Detailed examination of issues

In this context EPCA would like to draw the attention of the Hon'ble Court to the following issues:

A. Is IGL justified in projecting a reduced sale of gas?

1. As mentioned earlier, lack of clarity on the issue of dispensing and compression capacity is the key issues in the context of pricing of CNG. This distinction was made by IGL to prove that since it expected to sell much less than the Court mandated amount of 16.11 lakh kg per day, their revenue would be much less while capital cost of creating the infrastructure to dispense gas would increase. The justification given to EPCA for the price hike was that the sale of gas in 2003-04 in the realistic scenario would be 6.04 lakh kg per day and in the optimistic scenario would be 7.17 lakh kg per day.

2. In its pricing report EPCA had questioned this basis on the ground that IGL was not justified in projecting such low sales because of lack of adequate demand. It is important to reiterate this point. In its report on pricing, EPCA had pointed out "that the unique feature of the Delhi CNG market is that it is a Court mandated market and conversion of 10,000 buses to CNG is mandatory. More cars and autos are also expected to switch over to CNG in the years to come especially if the government comes up with appropriate incentives for such conversion in the interest of the environment. The gas should be made available and for this necessary infrastructure should be provided for convenient filling of vehicles."

In EPCA's view IGL had underestimated the market potential in the following manner:

i. Low demand for CNG

At the time of the preparation of the CNG pricing report, IGL in its submission to EPCA had revised the amount of CNG utilised by each category of vehicle per day to state that demand for gas in Delhi was much lower than the Supreme Court mandate. For instance, IGL lowered its estimate from 70 kg of gas per bus per day as stated in their submission of July 2001 to 51.30 kg per bus per day in their presentation submitted in June 2002. This made a major difference to estimated share of demand for buses in CNG consumption. IGL argued for instance based on a survey conducted in April 2002, that all buses do not come for refuelling everyday. This could be true for dedicated school buses, which are about 800 in numbers not the rest.

ii. Underestimation of numbers of vehicles and utilisation of CNG

IGL also lowered its estimates of potential growth in the number of CNG vehicles. IGL's sale projections, as per their submission to EPCA during June 2002 were based on the assumption that only 300 buses, 400 autos, 500 cars, 100 taxis and 75 RTVs would be inducted into the fleet every month. This was in contrast to the Court order dated April 5, 2002 that had directed that 800 CNG buses be phased in every month. IGL however considered a more optimistic scenario in which it included the court order i.e. induction of 800 buses per month without changing the numbers of other vehicles.

The Transport Department, GNTDC, of the Delhi government has informed EPCA, that based on the registration of vehicles, the estimated level of demand as in February 2003 was 10.84 lakh kg per day (Table 1).

Table 1: Estimated CNG demand in February 2003: Transport Department of Delhi

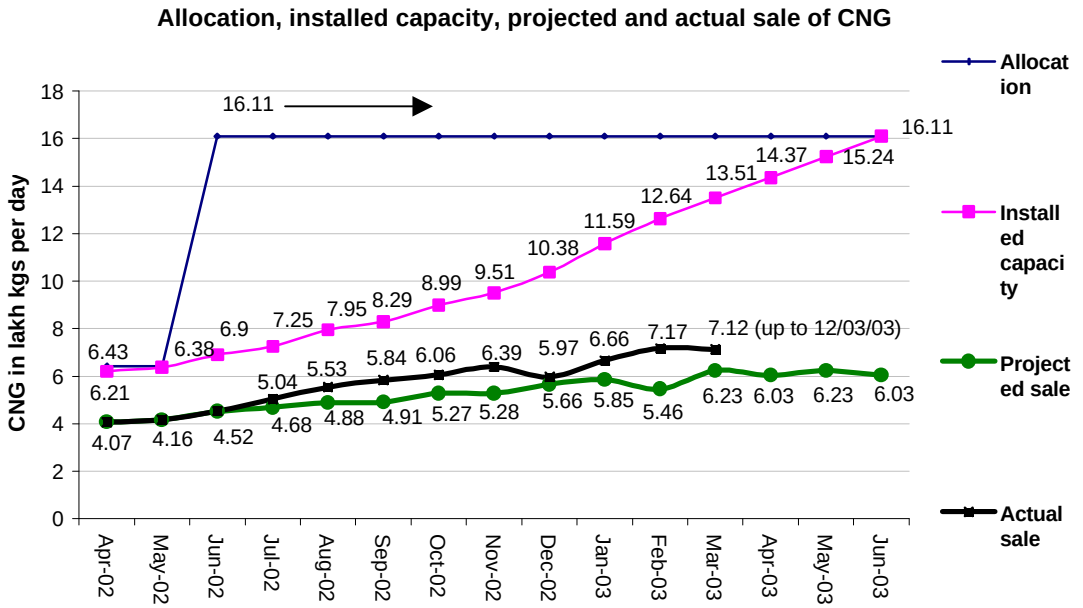
Vehicle category	**Number of CNG vehicles**	**CNG in kg required per vehicle per day**	**CNG requirement**
Buses	8,686	70	7.63 lakh kg per day
Mini buses	4,629	18	
Autorickshaws	45,950	5	3.21 lakh kg per day
Taxi	3,648	10	
Maxi cab	735	10	
Total	**63,648 vehicles**		**10.84 lakh kg per day**

Source: 2003, Transport department, GNTDC *issue update: CNG demand and supply,* Submitted to EPCA

But on examination of the matter further EPCA finds that currently, (in February 2003), IGL is selling more than what it had projected for this period.

In May 2002, IGL had projected to sell 5.64 lakh kg per day in February 2003. But according to the submission of IGL to EPCA on March 2003, IGL's actual sales have already reached 7.17 lakh kg per day in February, 2003, while the installed compression capacity for the same period is 11.77 lakh kg per day.

Graph 2:



References: 1. IGL Affidavit May 2002. 2. IGL July 2002, submissions to EPCA on pricing hike issue, 3. IGL's EPCA presentation and submissions March 2003

In this perspective the actual revenue earning of IGL is expected to be higher than what was computed by IGL to justify the price increase. EPCA in its report had pointed out that ***even with a slight increase in CNG sales***, revenue from sales would increase significantly.

It had calculated to show how with increased sales from 6.04 lakh kg per day to 7.33 lakh kg per day, after tax profits at the current price of Rs 16.83 per kg would increase from Rs 19.30 crore in 2003-04 to Rs 44.90 crore in the same year (see table 2).

By their own estimates, at the level of February 2003 sales of 7.17 lakh kg per day, IGL profits should increase from Rs 19.30 crores to Rs 41.70 crores for the year 2003-04.

Table 2: Impact of increased sales of CNG on revenue generation – 2003-04

Avg Daily Sales (lakh kg per day)	**6.04#**	**6.20**	**6.36**	**6.52**	**6.68**	**6.85**	**7.01**	**7.17##**	**7.33**
Revenue Rs/Cr	370.8	380.9	390.7	400.5	410.3	420.8	430.6	440.42	450.3
Excise duty	51.1	52.5	53.9	55.2	56.6	58.0	59.4	60.75	62.1
Provision for tax	11.2	13.1	14.9	16.8	18.6	20.6	22.5	24.3	26.1
Profit after tax	**19.3**	22.5	25.7	**28.8**	32.0	35.4	**38.6**	41.7	44.9

 # Average sale figures projected for the FY 2003-04 by IGL (realistic projections)

Average sale figures projected for the FY 2003-04 by IGL (Optimistic projections)

Source: Computed on the basis of data provided by IGL in its reply to Chairman, EPCA, dated June 6 and July 26 cited in the EPCA report "Getting the Prices Right" July 2002.

B. Is IGL justified in arguing that for "comfortable fuelling" it must plan to utilise only 37-40 per cent of its installed capacity?

In its affidavit (August 8, 2002) to the Hon'ble Court and its submissions to EPCA, IGL has argued that for "comfortable fuelling (generally without queue or at the most waiting period of 10-15 minutes during the peak period), the sales/offtake should be around 40 per cent of the compression capacity." This has been repeated in the subsequent IGL affidavit.

This implies that while IGL would increase its compression capacity to 16.11 lakh kg per day, it would only be able to dispense 6.44 lakh kg per day that is 37 per cent of 16.11 lakh kg per day).

EPCA's observations:

1. The queues were the result of poor planning for infrastructure, which led to inefficient dispensing of CNG.

EPCA had noted in its pricing report, "As of March 2002, IGL had 94 stations, of which as many as 29 stations were daughter stations -- as much as 30 per cent of the total stations. But as per the data provided by IGL itself, these 30 per cent of the stations, sold only 6 per cent of the total gas sales in 2001-02. This is dead investment and part of the infrastructure problem of IGL.

By March 31, 2002, IGL had a total of 26 daughter booster stations, 28 per cent of its infrastructure. But sales of daughter booster in 2001-02, were a mere 8.5 per cent. ***Therefore, roughly, 60 per cent of IGL's built infrastructure sold a mere 14.5 per cent of its gas.*** Clearly, this speaks of the problem.

Moreover, in the 55 odd compressors, installed by March 2002, IGL had invested Rs 65 crore, roughly 32 per cent of its total investment of Rs 203 crore. Most of the compressors are in the daughter booster stations are on wet lease, selling only 8.5 per cent. But the compressors in the mother and online stations, 32 per cent of its investment, is earning 85 per cent of its revenue."

Table 3: Built infrastructure and gas sales: March 31, 2002

S No	Stations	Number[1]	% of stations	% of total gas sold in 2001-02[2]
1.	DTC mother stations	9	9.6	23.5
2.	Mother stations	17	18.0	44.4
3.	Online stations	13	13.8	17.0
4.	Daughter booster	26	27.7	8.5
5.	Daughter	29	31.0	6.1
	Total	**94**		

1. Source: EPCA Report "Getting the Prices Right July 2002, *mimeo*.

In view of the above, EPCA had pointed out that there was already scope for improvement in operational efficiency and investment planning by IGL.

IGL is currently (in February 2003) utilising 61 per cent of its installed capacity, with substantially reduced queues. With a compression capacity of 11.77 lakh kg per day, it is selling 7.17 lakh kg per day. There is no basis to justify that it will need to further build capacity up to 16.11 lakh kg of gas to sell only 6.44 lakh kg per day (see graph 2)

Therefore, in the present context EPCA finds absolutely no justification to support IGL's position that it has to operate at 37 per cent of its installed capacity to enable "comfortable fuelling".

This issue becomes critical for the future expansion of CNG infrastructure in the city. EPCA notes that the situation has indeed improved of late with the extension of the pipeline that has led to conversion of a large number of daughter and daughter booster stations to online and mother stations. This has also led to better spatial spread of fuelling stations. It is imperative for IGL to now take stock of its opportunities and carefully plan to ensure that it is able to dispense gas to the growing market in Delhi.

6. Overall observations

On scrutiny of the affidavits of Rajeev Sharma and IGL, it is clear that there is no disagreement or difference between the two in their various contentions. On the terms, "compression capacity" and "dispensing capacity":

d. The term **compression capacity** means the capacity of the compressor installed to compress gas.
e. The **capacity/capability to dispense gas**, which is dependent on the compressors as well as the related infrastructure like dispensers, location of stations etc needed to dispense CNG efficiently, without long queues, and;
f. In addition the **actual off-take of CNG**, which is dependent on the number and sizes of vehicles coming for refuelling, in other words, the actual sales.

2. The actual sales/off-take of CNG is a critical determinant in the price fixation by the IGL management. In its justification for the increase in price from Rs 13.11 to Rs 16.83 per kg in April 2002, IGL had estimated that it would sell between 6-7 lakh kg of CNG in 2003-04 in its realistic and optimistic scenarios. EPCA has found that in February 2003, the actual sales of CNG is 7.17 lakh kg per day, which is higher than what had been estimated by IGL to compute its annual sales. IGL is also dispensing 61 per cent of its installed capacity.

3. Based on the above, EPCA is now of the view that the decision of IGL in April 2002 to raise the CNG prices cannot be justified, as it assumed a projected sale estimates and capacity utilisation, which is not borne out of the above scrutinised facts. *(Two members have made additional observations in this regard, which are appended to this report).*

4. It must be noted that CNG is a court-mandated market that has established the baseline demand of CNG for the transport sector in Delhi. IGL will ***at the minimum*** sell the amount of gas mandated under the various orders of the court to a fixed number of commercial transport vehicles in the city. A potential demand exists beyond this

minimum sale and IGL will have to work towards realising this market potential with aggressive marketing strategy to remain cost-effective. Otherwise, there is a likelihood of the capital costs of expansion of CNG infrastructure being passed on to the existing consumers, especially commercial transport.

5. The vast infrastructure for CNG delivery has been created not only at enormous financial cost but also at consistent Court, public and government endeavours. This reality has to be recognised by IGL.

6. EPCA is of the view that instead of focusing on the narrow technical distinction between dispensing capacity and compression capacity to justify a conservative projection of sales and demand, it is more important to frame appropriate policies and strategies to increase CNG sales.

7. CNG has been introduced in this city to control particulate pollution. It is therefore, in the interest of public health to encourage large-scale conversion of vehicles to CNG. But the countervailing pressures of the CNG price hike last year, coupled with a tacit policy to actively discourage conversion of private cars to CNG due to poor availability of gas, the long queues at the filling stations has dampened demand for CNG in the city, negating some of the efforts made as cited above. Central and the state governments be directed to submit a phase-in plan to run more vehicles on CNG and actively encourage private vehicles to run on CNG as well. To facilitate this process, appropriate fiscal and economic incentive policy should be designed.

8. The price hike was possible only because of the lack of a regulatory framework for promoting CNG as an autofuel. This bears out the importance of a policy that would safeguard against similar arbitrary decisions to increase prices in the future, which could jeopardise the CNG programme in Delhi.

To safeguard against any further arbitrary price based purely on commercial objectives of the companies supplying CNG, the government must be directed to set up a regulatory and a fiscal mechanism to promote CNG and other environmentally acceptable fuels. EPCA has noted with concern that with deregulation and price reforms underway, there is little elaboration of the issue of CNG as an auto-fuel in official policies to make CNG competitive vis a vis its competing fuels like diesel and petrol. EPCA had earlier noted in its pricing report that CNG would directly compete with diesel more than petrol. As a result, the taxation policy should be designed in a manner that an appropriate and effective price differential is maintained with diesel. The review of the fuel taxation policies round the world shows that “favourable” taxation is an important instrument to maintain the price differential to encourage environmentally acceptable fuels. To underscore this point EPCA would like to reiterate this recommendation already made in the pricing report with regards to the fiscal policy on CNG.

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This issue becomes critical for the future expansion of CNG infrastructure in the city. EPCA notes that the situation has indeed improved of late with the extension of the pipeline that has led to conversion of a large number of daughter and daughter booster stations to online and mother stations. This has also led to better spatial spread of fuelling stations. It is imperative for IGL to now take stock of its opportunities and carefully plan to ensure that it is able to dispense gas to the growing market in Delhi.

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