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(भारत सरकार का उपक्रम – महारत्न कंपनी)
GAIL (India) Limited
(A Government of India Undertaking - A Maharatna Company)

GAIL/HVJ/Final Tariff/352283/2018/2242

27.11.2018

To
The Secretary
Petroleum and Natural Gas Regulatory Board
1st Floor, World Trade Centre
Babar Road, New Delhi-110001

Respected Madam,

Sub: Final Tariff Determination of HVJ-GREP-DVPL and DVPL/GREP Upgradation Natural Gas Pipeline Network of GAIL (India) Limited.

This has reference to the Open House discussion held at PNGRB on 26.11.2018 in respect of the subject pipeline network, during which, GAIL was required to submit a Justification Note on Single Tariff for the Integrated HVJ and HVJ Up-gradation pipeline system.

2. Accordingly, a Note is enclosed herewith as **Annexure-A**.

Submitted please.

Thanking you,

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Yours sincerely,

S. Kumar.

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28/11/18

DE(TKC)

AA(AJ)

Justification/ Reasoning for Integrated HVJ and HVJ Upgradation System

1. TECHNICAL

1.1. **HVJ**:- The Hazira-Vijaipur-Jagdishpur (HVJ) Pipeline (About 1800 kms, 18.4 MMSCMD), India's first cross-country natural gas pipeline, was commissioned in 1987-88, with compressor stations at Hazira (Gujarat), Jhabua (M.P.), Vijaipur (M.P.) and Auraiya (U.P.).

1.2. **GREP**:- Later, during the year 1997, with more natural gas availability from ONGC fields, the HVJ pipeline capacity was expanded from 18.4 MMSCMD to 33.4 MMSCMD under the Gas Rehabilitation and Expansion Project (GREP), by laying a new 36" x 505 Km pipeline from Vijaipur to Dadri (U.P.), and by installing new compressors at Vaghodia (Gujarat) and Khera (M.P), as well as augmenting compressor capacity at Hazira and Jhabua. Upon commissioning, GREP was subsumed as a part of HVJ and a single tariff was determined for the HVJ-GREP system.

1.3. **DVPL-I**:- During the year 2004, in synchronization with commissioning of India's first LNG Regasification Terminal at Dahej by PLL, a 42"x 612 Km, Dahej-Vijaipur Pipeline (DVPL) of 23.9 MMSCMD capacity was built in the common RoU (*from Vemar, Gujarat, to Vijaipur, M.P.*) of the HVJ Pipeline. Additional compressor at Vijaipur was also installed as a part of the DVPL project to evacuate the additional gas downstream of Vijaipur. Upon commissioning, DVPL was also subsumed as a part of the HVJ-GREP pipeline and a single tariff was determined for the HVJ-GREP-DVPL system.

1.4. **DVPL-GREP Upgradation**:- Later on, under the scenario of capacity augmentation at PLL, Dahej and major gas discovery in KG-Basin Fields (this gas to be brought from A.P. through EWPL and injected into the HVJ system at Ankot, Gujarat), an Upgradation project was undertaken by GAIL:

- For laying another 48" x 505 Km pipeline from Vijaipur to Dadri in parallel to the GREP in the same ROU, along with installation of new common compressors at Jhabua and Vijaipur (**Phase-I**) and

- For laying another 48"x610 Km Dahej –Vijaipur pipeline (DVPL-II) in the same ROU of 42" DVPL-1 pipeline, with additional compressors at Jhabua & Vijaipur, and installation of new compressors at Kailaras (M.P.) and Chhainsa (Haryana)(**Phase-II**).

As part of Phase-I, the 48" x 505 Km Vijaipur to Dadri pipeline was commissioned in March, 2010; and with the commissioning of compressors in Kailaras and Chhainsa in August, 2013, the Phase-II of the HVJ Upgradation Project was completed.

The Phase-1 was designed for catering additional 11 MMSCMD gas and Phase-1I was designed for catering additional 43.0 MMSCMD gas. Thus the combined capacity of Phase-I plus Phase-II projects of the Upgradation project stood at 54 MMSCMD.

1.5. With the completion of the said Upgradation Project, the HVJ-DVPL-GREP and the DVPL-GREP Upgradation are operating as completely one integrated pipeline system.

1.6. The sources for the integrated network are same i.e., Hazira, PLL- Dahej, EWPL Ankot and Shadol CBM at Phulpur. All the customers are also served through one integrated pipeline system.

1.7. The pipelines are fully inter-connected at Vaghodia, Jhabua, Khera, Vijaipur and at Dadri and gas flows through the common integrated system. Integrated pipeline schematic is attached separately.

1.8. Further, compressors at Jhabua and Vijaipur, installed under the HVJ-GREP-DVPL and under the DVPL/GREP Upgradation, are interchangeably used to optimize the network operation and reduction in fuel consumption. The line pack of the integrated system also allows operational flexibility and helps maintain uninterrupted gas flow to customers during occasional downtime of equipment in HVJ pipeline.

1.9. Thus the system shares common ROUs, shares and utilizes common supporting and enabling infrastructures like IP Stations, Dispatch and Receiving Stations, Sectionalizing Valve stations with remote operation capabilities, Cathodic Protection Stations, Common Supervisory Control and Data Acquisition (SCADA) System, Telecom Repeater Stations including voice communication facilities.

1.10. This seamless interconnection facility provides operational flexibility, network optimization and reliability of supply to all the gas suppliers, transporters (including other transporters), shippers and consumers in the network.

1.11. As such, common/shared costs come under one single integrated pipeline system only; However, because of the specific requirement given, the same are required to be bifurcated and allocated under two separate pipeline heads based on certain assumptions.

1.12. Further, the entire workforce deployed for the integrated network is common and shared, thus optimizing the costs in operating and maintaining the integrated system.

2. TARIFF FOR HVJ-GREP-DVPL and DVPL/GREP UPGRADATION

2.1 As mentioned earlier, although GREP and DVPL-1 were commissioned in different periods of time and primarily for serving new and incremental customer loads, yet, upon commissioning of GREP as well as DVPL-I, the respective project costs were merged with the HVJ and it led to determination of a single tariff for the integrated pipeline system.

2.2 PNGRB also acknowledged HVJ-GREP-DVPL as one integrated pipeline and determined a single levelized tariff for this pipeline system, and the same was apportioned into zonal tariffs as per regulations.

2.3 As regards the DVPL-GREP Upgradation, keeping in view that this was also completely operating as one integrated system along with the HVJ-GREP-DVPL, GAIL submitted a single tariff for the combined HVJ and HVJ Upgradation system.

2.4 PNGRB, in its Tariff Order TO/02/2010 dated 19.04.2010 accepted the fact that this system is actually operating as one single integrated system. Under para no. 3 of this Tariff Order ("Treatment of Upgradation for Tariff Determination") it was mentioned that according to GAIL "*HVJ-GREP-DVPL and Upgradation is an integrated Pipeline and operationally it is not possible to segregate it*" and in this regard it was stated by PNGRB that ".... *there is no contention on the two pipelines operating as a common network...* ". Therefore PNGRB's PNGRB's said order acknowledged that this system is operating as one common network.

2.5 However, for the purpose of tariff and related contractual obligations, the said tariff order conveyed that the Upgradation would be treated separately. The reasoning given in the said Tariff Order included, (a) Upgradation will primarily serve new customer loads, (b) Merger of Upgradation cost leads to substantially higher tariffs for existing customers, (c) Existing customers cannot be unfairly burdened with rolled-in cost and consequentially higher tariffs and (d) Clubbing the costs of expansion leads to wrong price signals. Thus, upon the aforementioned reasoning, the said tariff order conveyed that *"for the purpose of tariff and related contractual obligations, upgradation will be treated separately and provisional initial tariff for upgradation will be determined separately"*. Accordingly, a separate levelized tariff of Rs.53.65/MMBtu was determined by PNGRB for the DVPL/GREP Upgradation.

2.6 Thus, the entire HVJ system (i.e. HVJ-GREP-DVPL and DVPL/GREP Upgradation) is actually operating as one integrated system only. Accordingly, access is also given to the integrated system only and there are no two separate contractual paths for this integrated system. Also, the zonal tariff demarcations are exactly the same for this entire system. However, in accordance with the said Tariff Order, only for the purpose of contractual bookings and applicable tariff, upgradation is being treated separately.

2.7 In this regard, Para 4.18 of the said Tariff Order has conveyed that "*The rate of Rs.53.65/MMBtu in respect of DVPL/GREP Upgradation will be applicable only for the volumes contracted by the new customers or the incremental volumes contracted by the existing customers*".

In compliance of this PNGRB Order, although access is being provided to the integrated system, the tariff for the volumes contracted by the new customers or the incremental volumes contracted by the existing customers are uniformly applied at the Upgradation rate, and this non-discriminatory tariff is equally applicable to the gas of third party shippers as well as to the gas marketed/sold by GAIL.

2.8 However, it may be mentioned that the Upgradation rate of Rs.53.65/MMBtu is more than double the HVJ-GREP-DVPL rate of Rs.25.46/MMBtu. This is leading to a situation where the already existing customers who are mostly beneficiaries of APM gas are also getting the benefit of much lower tariff, whereas the new customers who have to consume the costlier R-LNG are also burdened with much higher tariff. Furthermore, this dual tariff system for using the same pipeline is also creating other anomalies, viz., say an existing customer receiving gas from the same source, but one quantity already contracted before the tariff order and the other quantity contracted as incremental volume after the tariff order, is forced to pay completely different tariffs. Also, a new customer, who may be located near an existing customer (*within the same tariff zone*), but both receiving gas from the same source, is also forced to pay much higher tariff than the existing customer. Given that the HVJ is a very large transmission system from which further downstream pipelines like CJHPL, DBNPL, DPPL and JHBDPL are also emanating, practically all the new customers, including CGDs connected to these pipelines also, are required to pay the much higher Upgradation Tariff. All these factors are inequitably affecting gas market development for new volumes/customers.

2.9 Such anomalies are also not in line with the extant PNGRB Regulatory framework. For instance, the Regulatory definition of Tariff Zone explicitly states that "*Provided the natural gas pipeline tariff for transport of natural gas from the same source shall be uniform for all the customers located within the zone*". In the instant case, although the natural gas pipeline, i.e. the combined HVJ & HVJ Upgradation, is actually one integrated pipeline, but yet, two different tariffs are being applied for gas transported from the same source to customer(s) located within the same tariff zone.

2.10 In case the two differential tariffs for using the same integrated HVJ pipeline system is continued, one way or another, one tariff would be significantly higher than the other tariff, and therefore in any case, it would be better to discontinue the current dual tariff system.

2.11 As already conveyed in the subject PCD dated 18.10.2018, based on parameters and workings made by GAIL, the estimated final tariff for HVJ Upgradation as worked out by GAIL is Rs 79.28/MMBTU (on GCV basis) and for HVJ is Rs 175.2/MMBTU, whereas, the estimated integrated tariff, as submitted by GAIL, is Rs 97.04/MMBTU. These workings also suggest that the integrated tariff would be more equitable for customers.

2.12 In view of the above, it has been the consistent submission by GAIL that since the HVJ and HVJ Upgradation are operating as one integrated network, a single levelized tariff be determined for this integrated network. Accordingly only, GAIL, in its current tariff filing also, has submitted a single tariff for the HVJ and HVJ Upgradation as one integrated network.

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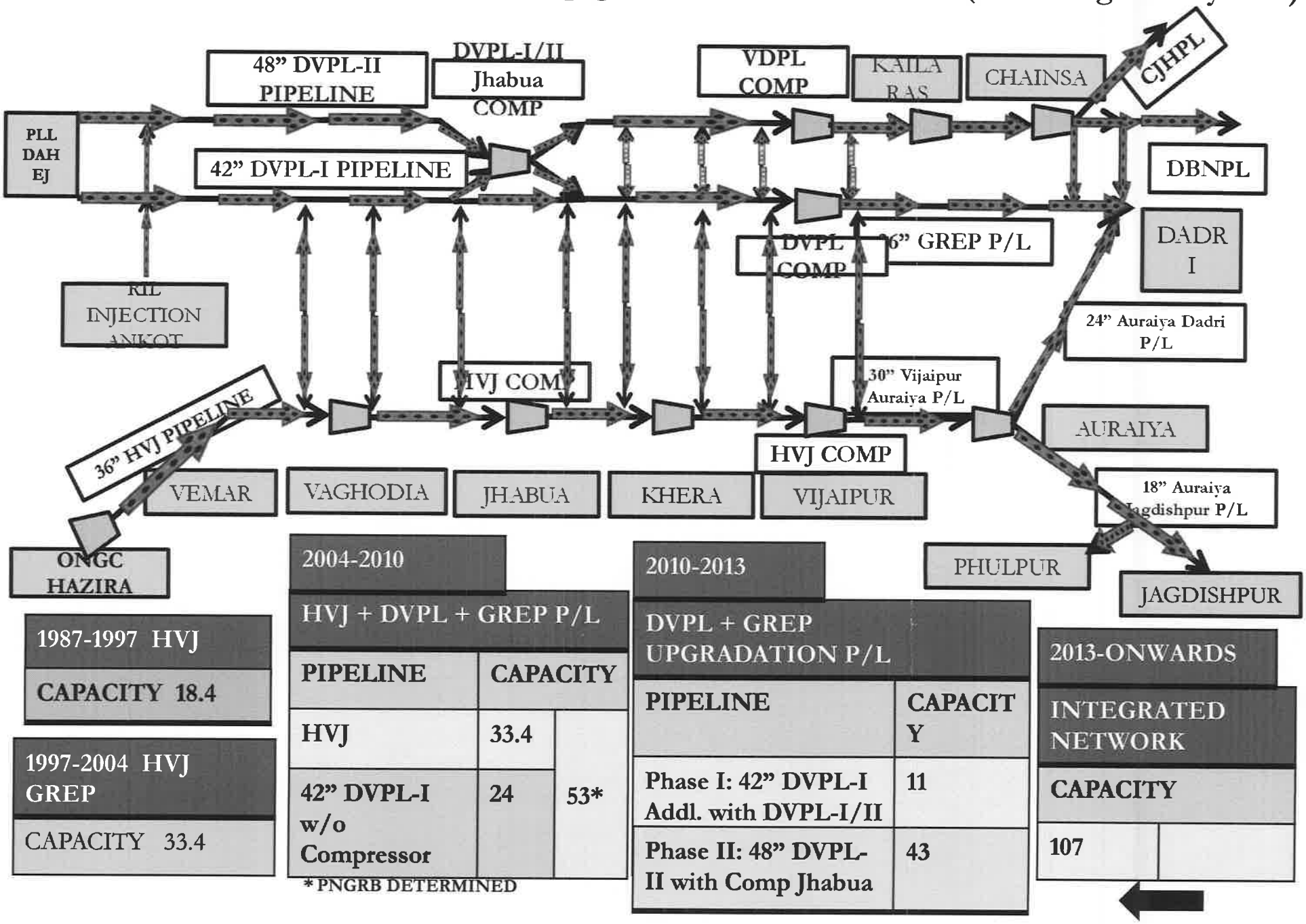
HVJ-GREP-DVPL /DVPL-GREP Upgradation Map

HVJ-GREP-DVPL and DVPL-GREP Up-gradation P/L Schematic (One integrated system)



1987-1997 HVJ
CAPACITY 18.4

1997-2004 HVJ GREP
CAPACITY 33.4

2004-2010		
HVJ + DVPL + GREP P/L		
PIPELINE	**CAPACITY**	
HVJ	33.4	
42" DVPL-I w/o Compressor	24	53*

* PNGRB DETERMINED

2010-2013	
DVPL + GREP UPGRADATION P/L	
PIPELINE	**CAPACITY**
Phase I: 42" DVPL-I Addl. with DVPL-I/II	11
Phase II: 48" DVPL-II with Comp Jhabua	43

2013-ONWARDS	
INTEGRATED NETWORK	
CAPACITY	
107	