

**Compliance to the PNGRB (Determining capacity of Petroleum, Petroleum products and Natural Gas Pipeline) Regulations, 2010**

**Annexure-2**

**a) Constant parameters:**

Parameter	Details
Name of Steel Pipe/ Section:	<b>Dadri-Panipat R-LNG Pipeline (DPPL)</b>
Internal Diameter (mm/inch)	Average effective ID is 28.906" inches
Length (Km)	DPPL Mainline -131.818 kms NFL Spur line -1.736 kms MPL (Micro-polypet Pvt Ltd) -6.677 kms
Pipeline Roughness (micron)	35
Efficiency Factor/Pipeline Efficiency (%)	0.85
Formula/ Gas Flow Equation Used	Modified Panhandle equation(Panhandle B for more than 24" pipe size & Panhandle A for less than 24" size)
Velocity (m/s)	2.1 to 2.3 m/s
STP	Standard pressure : 1.01325 bar (a) Standard temperature : 15.56 deg C

**b) Variable parameters:**

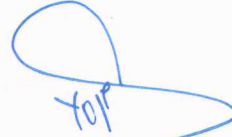
Parameter	Details	
Name of Steel Pipe/ Section:	<b>Dadri-Panipat R-LNG Pipeline (DPPL)</b>	
Operating Temperature (30 deg C)	Temperature ( 0C)	
	Winter	Summer
	15	25
Inlet Temperature (deg C)	Ranges 18.5 to 29 degree C	
Inlet Pressure (kg/cm2g or barg)	Ranges from 50 to 55 bars	
Outlet Pressure (kg/cm2g or barg)	Customer	Outlet pressure(Kg/cm2)
	PR and PNCP ( internal customers)	40-42 kg/cm2
	NFL Spur line	40-42 kg/cm2
	MPL (Micro-polypet Pvt Ltd)	5-6 kg/cm2
Maximum Operating Pressure (kg/cm2g or barg)	54 bars	
Minimum Committed Pressure (kg/cm2g or barg)	50 bars	
Velocity (m/s)	2.1 to 2.3 m/s	
Supply Source Flow (MMSCMD)	5.31 MMSCMD max delivered Flow from source Supply	

*for*

<b>Delivery Flow (MMSCMD)</b>	Max delivery Flowrate to respective customers tabulated below:-	
	Customer	Delivery Flow (max delivery) in MMSCMD
	<b>PR and PNCP ( internal customers)</b>	<b>4.37</b>
	<b>NFL Spur line</b>	<b>0.97</b>
	<b>MPL (Micro-polypet Pvt Ltd)</b>	<b>0.016</b>
<b>Elevation Difference</b>	<b>208-238m from mean sea level</b>	
<b>Gas Composition (Mole Percent)</b>		
Methane:	<b>92.9824</b>	
Ethane:	<b>5.2821</b>	
Propane:	<b>1.0579</b>	
Isobutene:	<b>0.1963</b>	
Isopentene:	<b>0.0086</b>	
Hexane:	<b>0.0006</b>	
Nitrogen:	<b>0.1234</b>	
Sp. Gravity:	<b>0.5989</b>	
GCV: Kcal/SCM	<b>9568.258</b>	
NCV: Kcal/SCM	<b>8635.584</b>	

Remarks: GAIL has installed 5MMSCMD for custody transfer at Dadri end till date

Dated: 01-10-12



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