

## ANNEXURE - 30

### DESIGN AND PROCESS PARAMETERS

#### FOR DRS/CPRS (TYPE - 1) 300# - DESIGNED FOR INLET PRESSURE OF MINIMUM 10 BARG

**Project Name** : Pressure Reduction Skid – DRS

**Revision** : 0

1. **Confirming Standard** : PNGRB Technical Standard, ASME B 31.8 and IGE/TD/13, (Latest Edition)
2. **Piping/Filter Standard** : ASME B 31.8, API 1104 and ASME Sec.- VIII & IX with (latest addenda)
3. **Functional Requirements** : IGE/TD/13 and as per agreed MANUFACTURER's Recommendation
4. **Class Location** : Location Class Four (4) as per PNGRB Standard
5. **Medium** : Natural Gas
6. **Design & Operating Data** :

Item No.	DRS Flow (SCMH)	Design Flow, SCMH @ inlet pressure	Design Pres. (Barg)	Design Temp. Deg. C	Inlet Op. Pres. (Barg)	Op. Temp. Deg. C	Set Range of Regulator (Barg)	Outlet set Pres. (Barg)
1	500	500@10 Barg	49	-10 to 65	10-40	0-50	1.5- 6	4
2	1000	1000@10 barg	49	-10 to 65	10-40	0-50	1.5- 6	4
3	2000	2000@10 barg	49	-10 to 65	10-40	0-50	1.5- 6	4
4	5000	5000@10 barg	49	-10 to 65	10-40	0-50	1.5- 6	4
5	10000	10000@10 barg	49	-10 to 65	10-40	0-50	1.5- 6	4

Note : Piping size of regulator downstream shall be designed considering 4.0 bar outlet pressure.

**7. Limiting gas Velocity:**

- Filter Upstream - Designing of pipeline size before filter, velocity to be considered 20 m/s.

- Filter Downstream & Before Regulators - Velocity to be consider 30 m/s
- After Regulator - Velocity to be consider 30 m/s

### 8. Environment Considerations:

All equipment shall be designed for operation, storage & transportation under the following environmental conditions.

### 9. Site Conditions

The entire instrumentation system shall be designed for the following site conditions:

Max. /Min. temperature	:	50 / 0 ° C
Relative Humidity	:	100%
Hazardous Area classification	:	<b>Zone 1, Gas group IIA / IIB, Temp. Class T3</b>

### 10. Gas Composition:

Following Gas composition has been considered for design and engineering of PRS skids:

General Gas Composition	
Component	Mole %
CH4	92.66%
Nitrogen	0.42%
C2H6	6.32%
C3H8	0.49%
i-C4H10	0.05%
n-C4H10	0.06%

### 11. Sizing Criteria:

For sizing of inlet piping, outlet piping, Regulator and SSV below criteria shall be considered-

Inlet Pressure	Outlet Pressure
Min : 10 barg	Min : 4.0 barg
Normal : 10 barg	Normal : 4 barg (Set Point)
Max : 26 barg	Max. : 5 barg