

ANNEXURE - 30

DESIGN AND PROCESS PARAMETERS

FOR DRS/CPRS (TYPE-2) 300# - DESIGNED FOR INLET PRESSURE OF MINIMUM 5 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@5 Barg	49	-10 to 65	5 - 40	0-50	1.5- 4	4
2	1000	1000@5 barg	49	-10 to 65	5 - 40	0-50	1.5- 4	4
3	2000	2000@5 barg	49	-10 to 65	5 - 40	0-50	1.5- 4	4
4	5000	5000@5 barg	49	-10 to 65	5 - 40	0-50	1.5- 4	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 : **Zone 1, Gas group IIA / IIB, Temp. Class T3**

10. Gas Composition:

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

General Gas Composition	
Component	Mole %
CH ₄	92.66%
Nitrogen	0.42%
C ₂ H ₆	6.32%
C ₃ H ₈	0.49%
i-C ₄ H ₁₀	0.05%
n-C ₄ H ₁₀	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 : 05 barg	Min : 1.5 barg
Normal : 10 barg	Normal : 4 barg (Set Point)
Max : 26 barg	Max. : 4 barg