GUJARAT GAS

ANNEXURE - 27
DESIGN AND PROCESS PARAMETERS

Project Name : Industrial Metering Skid

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 T4S Standard for CGD networks
5. **Design & Operating Data** :

Item No.	Description	Throughput , (SCMH) @ 1 barg O/L pressure	Meter Model	Design Pres. (barg)	Design Temp. (Deg. C)	Op. Pres. (barg)	Op. Temp. (Deg. C)
1	250 SCMH (2" x 2")	250	G16	19	65	1 - 5.5	0-50
2			G25	19	65	1 – 5.5	0-50
3			G40	19	65	1 – 5.5	0-50
4			G65	19	65	1 – 5.5	0-50
5	3" x 3" (500 SCMH)	500	G100 G160	19	65	1 – 5.5	0-50
6	3" x 3" (750 SCMH)	750	G250	19	65	1 – 5.5	0-50
7	4" x 4" (1500 SCMH)	1500	G400	19	65	1 – 5.5	0-50
8	6" x 6" (2000 SCMH)	2000	G650	19	65	1 – 5.5	0-50

Commentary

- Please provide me details sizing calculation done for each case along with pressure drop determination.
- There is scope for introducing the next higher pipe size at skid inlent, which will give benefit of higher throughput capacity at very minimal cost impact. This will intern pass on benefit to GGL customer.

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6. Limiting gas Velocity:

- Filter Upstream - Designing of pipeline size before filter, velocity to be considered 20 m/s.
- Filter Downstream - Velocity to be consider 30 m/s

7. Environment Considerations:

All equipment shall be designed for operation, storage & transportation under the following environmental conditions.
Maximum acceptable noise level may be specified as per State/Central pollution board norms.

8. 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**

9. Typical Gas Composition:

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

Typical Gas Composition	
Component	Mole % (v/v)
CH4	92.66%
Nitrogen	0.42%
C2H6	6.32%
C3H8	0.49%
i-C4H10	0.05%
n-C4H10	0.06%