

**Subcommittee views on Proposed for Amendments in PNGRB T4S NGPL Regulations**

S. No	Clause No./ Reference	Description	As proposed by subcommittee
1	<b>Schedule 1A Materials and Equipments</b> Steel Pipe	as per Line Pipe Specification API 5L, shall be Seamless, Electric Arc Welded (EAW) or Longitudinal / Helical Submerged Arc Welded (LSAW/HSAW) conforming to (PSL 2).	after the words beginning with “as per Line Pipe Specification....” and ending with “...conforming to (PSL 2).”, the following shall be substituted with, namely: -  <b>“as per Line Pipe Specification API 5L, shall be Seamless, High Frequency Welded (HFW) including Electric Resistance Welded pipes or Longitudinal / Helical Submerged Arc Welded (SAWL/SAWH) conforming to (PSL 2)”</b>
2	<b>Schedule 1D- Pipeline System and Component-Other Requirements</b>	Fire & gas detectors shall be installed in the compressor buildings or compressors skids to initiate shut down of the unit, isolation of the compartment and release of clean agent / CO2 inside the unit in the event of occurrence of fire.	after the words beginning with “Fire & gas detectors shall be installed....” and ending with “...the event of occurrence of fire.”, the following shall be substituted with, namely: -  <b>“Fire &amp; gas detectors or Multi-sensor detectors shall be installed in the compressor buildings or compressors skids to initiate shut down of the unit, isolation of the compartment and release of clean agent / CO2 inside the unit in the event of occurrence of fire.”</b>
3	<b>Schedule 1D- Pipeline System and Component-Station Block valves</b>		Below “Table-2” the following “Note” shall be added aligning with ASME 31.8, namely: -  <b>“Note- Based on the above location class, number of Block / Sectionalizing valves to be installed shall be worked out. Valve spacing adjustments should not exceed 10% of the applicable distances listed above to permit a valve to be installed in a more accessible location, with continuous accessibility being the primary consideration. However, the total number of valves as per the design requirement shall remain same.”</b>
4	<b>Schedule 1E-Essential Features of the Emergency Plan</b>	The entity shall put in place an Emergency Response Plan, a Disaster Management Plan and a Pandemic Plan. While preparing these plans the entity shall take into confidence the various local authorities (i.e. The Fire authorities, Police authorities, Health authorities, local administration, Disaster Management authorities, Mutual aid, Factory inspectorate etc) and clearly elaborate on their role in case of an incident.	after the words beginning with “The entity shall put....” and ending with “...case of an incident.”, the following shall be substituted with, namely: -  <b>“A comprehensive ERDMP shall be developed in accordance to the Petroleum and Natural Gas Regulatory Board (Codes of Practices for Emergency Response and Disaster Management Plan (ERDMP)) Regulations, 2010. The copies of the ERDMP for the pipeline and the station specific shall be maintained at each control room along with necessary maps and records to properly administer the plan, such as</b>  <b>i. Necessary operational data</b> <b>ii. Pipeline patrolling records</b> <b>iii. Corrosion monitoring or survey records</b> <b>iv. Leak or tapping records</b> <b>v Routine or unusual inspection records</b> <b>vi. Pipeline repair records”</b>

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5	<b>Schedule 1E-Fire and Gas Detection System-Compressor Stations</b>	IR / Smoke detectors shall be provided in control room, MCC, utility room and compressor enclosure with provision of indication, alarm and annunciation.	after the words beginning with “IR / Smoke detectors shall....” and ending with “...alarm and annunciation.”, the following shall be substituted with, namely: -  “ <b>IR / Smoke detectors or Multi-sensor detectors shall be provided in control room, MCC, utility room and compressor enclosure with provision of indication, alarm and annunciation.</b> ”
6	<b>Schedule 1E-Fire and Gas Detection System-Other Gas Installations</b>	IR / Smoke detectors shall be provided in control room, and utility room with provision of indication, alarm and annunciation.	after the words beginning with “IR / Smoke detectors shall....” and ending with “...alarm and annunciation.”, the following shall be substituted with, namely: -  “ <b>IR / Smoke detectors or Multi-sensor detectors shall be provided in control room, and utility room with provision of indication, alarm and annunciation.</b> ”
7	<b>Schedule 1E-Fire Fighting Equipment</b>	<p><b>Compressor stations:</b></p> <p>(a.) Compressor area One (1) number 10kg Dry Chemical Powder (DCP) based One (1) number 6.8 kg CO2 based per two compressors and One (1) number mobile 75 kg DCP based.</p> <p>(b.) Pigging Area, Metering Area and Gas Filtration Area One (1) number 10kg DCP based at each location</p> <p>(c.) Air compressors One (1) number 2 kg CO2 and one number 5 kg DCP based.</p> <p>(d.) Office/ Canteen/ Stores Two (2) number 10kg DCP based in each building.</p> <p>(e.) MCC/DG Room/HT room Two (2) number 4.5 kg CO2 based in each room or per 100 m2 floor area. 4 sand buckets with stand shall be provided near to DG room. A trolley containing first aid fire protective accessories shall also be provided</p>	<p>As the DCP extinguishers and CO2 extinguishers are manufactured in 9 Kg and 6.5 Kg capacity and the respective IS codes have been revised. It was decided to amend in Schedule 1E, under the heading “Fire Fighting Equipment” as under:</p> <p><b>Compressor stations:</b></p> <p>(a.) Compressor area One (1) number 9 kg Dry Chemical Powder (DCP) based One (1) number 6.5 kg CO2 based per two compressors and One (1) number mobile 75 kg DCP based.</p> <p>(b.) Pigging Area, Metering Area and Gas Filtration Area One (1) number 9 kg DCP based at each location</p> <p>(c.) Air compressors One (1) number 2 kg CO2 and one number 5 kg DCP based.</p> <p>(d.) Office/ Canteen/ Stores Two (2) number 9 kg DCP based in each building.</p> <p>(e.) MCC/DG Room/HT room Two (2) number 4.5 kg CO2 based in each room or per 100 m2 floor area. 4 sand buckets with stand shall be provided near to DG room. A trolley containing first aid fire protective accessories shall also be provided.</p>

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		<p><b>Intermediate pigging station</b></p> <p>One (1) number 75 kg and one (1) 10 Kg DCP based and one (1) number 2 kg CO2 based. 100% spares for CO2 cartridges and 50% spares for DCP cartridges shall be stored</p> <p><b>Sectionalising Valve stations</b></p> <p>One (1) number 10 kg DCP based and one (1) number 2 kg CO2 based. 100% spares for CO2 cartridges and 50% spares for DCP cartridges shall be stored</p> <p><b>Gas receipt / delivery terminals ;</b></p> <p>One (1) number 75 kg and one (1) 10 kg DCP based and one (1) number 2 kg CO2 based.</p>	<p><b>Intermediate pigging station:</b></p> <p>One (1) number 75 kg and one (1) 9 Kg DCP based and one (1) number 2 kg CO2 based. 100% spares for CO2 cartridges and 50% spares for DCP cartridges shall be stored</p> <p><b>Sectionalising Valve stations:</b></p> <p>One (1) number 9 kg DCP based and one (1) number 2 kg CO2 based. 100% spares for CO2 cartridges and 50% spares for DCP cartridges shall be stored</p> <p><b>Gas receipt / delivery terminals:</b></p> <p>One (1) number 75 kg and one (1) 9 kg DCP based and one (1) number 2 kg CO2 based.</p>
8	<b>Schedule-1E-Permanent Field Repairs of Injurious Dents and Mechanical Damage-2.</b> Modification on the pipeline system:	The hot tap shall be carried out as per API RP 2201	Continue with current practices.
9	Schedule-1G- <b>Annexure II List of Specifications of Piping Materials used in Natural Gas Pipelines-</b> Metering Equipment	Inclusion of OI ML R 137- Part 1 & 2 for Gas Ultrasonic Flow meters	Include OI ML R 137- Part 1 & 2 along with AGA 9 as metrological standard for Gas Ultrasonic flow meter for metering equipment
10	PNGRB T4S Regulations for NGPL with Clause Numbers	For ease of reference a need was expressed by subcommittee members to provide clause numbers in the regulations	Enclosed as "Annexure-A"

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11	Schedule-1D- <b>Design, Installation and Testing</b> - Plastic Pipes and Components	Use of MDPE pipeline for transportation of Natural Gas from CBM/ marginal field	<p>To allow use of MDPE pipeline for transportation of Natural Gas in class 1 &amp; 2 locations and accordingly proposed the following amendment:</p> <p>In Schedule ID – Design, Installation and Testing after the sub-heading Plastic Pipes and Components and before the sub-heading LOCATION AND LAYOUT OF PIPELINE INSTALLATIONS –</p> <p><b>Transportation of Natural Gas in class 1 &amp; 2 locations</b></p> <p>PE pipes can be laid to transport natural gas including off spec gas etc. provided if meets the following requirements.</p> <p>a. The PE pipeline shall be laid complying with all the provisions of the PNGRB (Technical standards and specifications including safety standards for City or local gas distribution network) Regulations, 2008. These provisions inter alia include odourisation, route markers, warning mat etc.</p> <p>b. Quantitative risk analysis shall be carried out for the pipeline network and risk mitigation measures shall be taken accordingly to minimise the risk.</p> <p>c. The cover of 1.5 meter or the cover as specified in these Regulations for steel pipelines, whichever is higher shall be maintained.</p> <p>d. The pressure shall not exceed 7 Kg/cm<sup>2</sup> in the PE Pipeline Network.</p> <p>e. The material shall conform to IS 14885 or ISO 4437 or ASTM D2513-14e1. The fittings shall as per ISO 8085 Part 3</p>
12		Fire Water system at compressor station delivering less than 4 MMSCMD	To continue with current practices.
	Schedule 1E- <b>SAFETY AND FIRE PROTECTION</b> -Gas receipt / delivery terminals <b>Clause 5.10 (D) (3) (iii)</b>	Fire fighting system with fire water network shall be provided for compressor stations.	To delete clause  <b>"Firefighting system with fire water network shall be provided at gas compressor stations"</b>

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13	Schedule 1E- <b>SAFETY AND FIRE PROTECTION</b> -Fire Water System <b>Clause 5.11.4 (i)</b>	The Fire water system shall be provided at compressor stations consisting of:	To amend the clause for clarity.  <b>Modified Clause:</b>  "Firefighting system with fire water network shall be provided at gas compressor stations and shall consist of:"
14	Schedule 1E- <b>SAFETY AND FIRE PROTECTION</b> -Design Flow Rate <b>Clause 5.11.5 (i) &amp; (ii)</b>	The fire water pumping requirement for medium velocity spray shall be calculated based on the spray rate given below or flow through two (2) nos. of fire water monitors (i.e 288 m3/hr) whichever is higher.  Spray rate for various areas shall be as follows:  (a) Compressor area: 20.4 Lpm/ m2 of area (b) Scraper area / Metering area / filter area: 10.2 Lpm/ m2 of area. (c) Other area: 3 Lpm/m2 of area	To merge the Clause as under:  <b>The fire water pumping requirement for medium velocity spray shall be calculated based on the spray rate given below or flow through two (2) nos. of fire water monitors (i.e 288 m3/hr) whichever is higher. Spray rate for various areas shall be as follows:</b>  (a) Compressor area: 20.4 Lpm/ m2 of area (b) Scraper area / Metering area / filter area: 10.2 Lpm/ m2 of area. (c) Other area: 3 Lpm/m2 of area
15	Schedule 1E- <b>SAFETY AND FIRE PROTECTION</b> -Design Flow Rate <b>Clause 5.11.5 (iii)</b>	Compressor area, gas after cooler area, pigging area, filtration area, metering area, condensate collection area etc. shall be covered with medium velocity water spray system using monitors and hydrants.	To modify as under:-  <b>Gas after cooler area, pigging area, filtration area, metering area, condensate collection area etc. of the Compressor station shall be covered with medium velocity water spray system using monitors and hydrants.</b>
16		Alternate method to Intelligent Pigging	To continue with current practices.