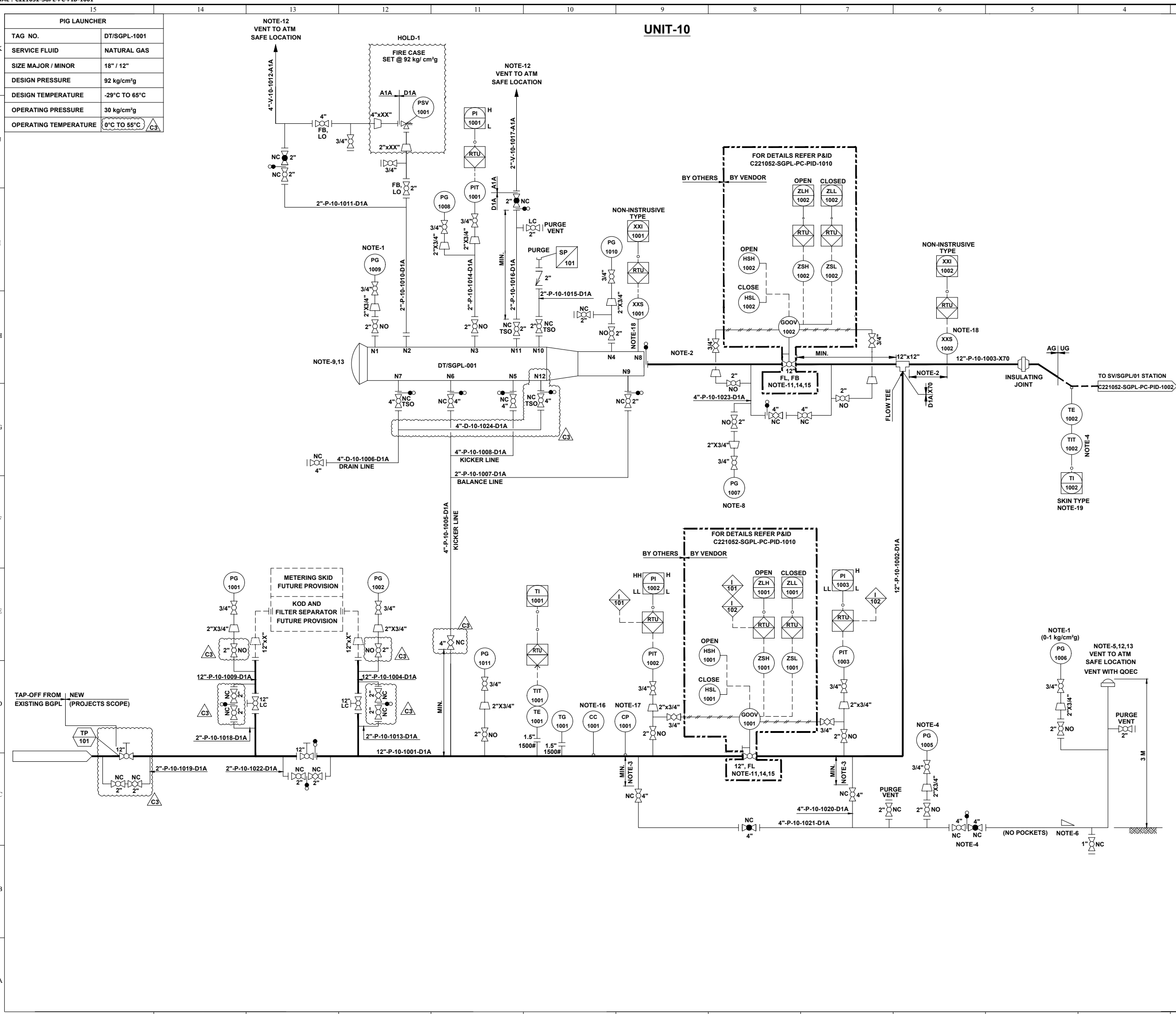


PIG LAUNCHER	
TAG NO.	DT/SGPL-1001
SERVICE FLUID	NATURAL GAS
SIZE MAJOR / MINOR	18" / 12"
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29°C TO 65°C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C



REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1000

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.


- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - DISTANCE SHALL BE AT LEAST EQUAL TO THE LENGTH OF THE LONGEST INTELLIGENT PIG.
  - BRANCH VALVE SHALL BE LOCATED AT MINIMUM DISTANCE.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PG-1005 AND TIT-1002 CAN BE READ DURING VENTING.
  - VENT SHALL BE WITH QOEC.
  - ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF PIPE IF ANY FOR LOW POINT DRAIN CONNECTION.
  - JUMPERS SHALL BE PROVIDED ACROSS ALL FLANGES.
  - PG-1007 SHALL HAVE A RANGE OF (0-5 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER AND LEAST COUNT OF 0.1 kg/cm<sup>2</sup>g.
  - PROVISION OF A TROLLEY WITH PUSH ROD & PULLING LINE SHALL BE CONSIDERED TO ASSIST LOADING OR REMOVAL OF PIGS FROM THE SCRAPER TRAP.
  - GAS DETECTORS TO BE PROVIDED IN DOWN WIND DIRECTION NEAR PIG BARRELS TO MONITOR LEAKAGE FROM FAILURE PRONE EQUIPMENTS PARTS ACCESSORIES, VALVE & PIPES.
  - VALVE POSITION SHALL BE FAIL LAST.
  - ALL VENTS SHALL BE PROVIDED MIN. 3M HIGH FROM NEAREST HIGHEST OPERATING PLATFORM OR NEARBY STRUCTURE WITHIN 15M WHICHEVER IS HIGHER. NON SPARKING MATERIAL (BRASS) SHALL BE USED FOR FLAPPER TYPE VENT CONNECTION.
  - QUICK OPENING END CLOSURE TYPE DOOR CANNOT BE OPENED UNLESS PIG BARREL AND CONNECTED PIPING IS FULLY DEPRESSURIZE.
  - NECESSARY I/O's & SIGNAL FOR INTERFACE WITH SCADA SHALL BE DEVELOPED SEPARATELY.
  - ACTUATOR DETAILS OF GOOV CONTROL LOGIC SHALL BE AS PER P&ID.
  - 'CC' SHALL BE OF WEIGHT LOSS TYPE.
  - ONLINE RETRIEVAL TYPE CORROSION MONITORING COUPON AND CORROSION PROBE SHALL BE PROVIDED FURTHER WHEREVER SCADA SYSTEM ARE AVAILABLE, THIS SYSTEM SHALL BE ONLINE SCADA COMPATIBLE OTHERWISE DATA SHALL BE COLLECTED BY OFFLINE DATA LOGGER.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.
  - THERMOPAD SHALL BE WELDED TYPE.

- HOLDS:-**
- PSV's INLET & OUTLET SIZE ARE UNDER HOLD. SHALL BE FINALISED POST RECEIPT OF VENDOR DATA.
- INTER LOCK:-**
- VALVE GOOV-1001 SHALL CLOSE ON LOW LOW PRESSURE OF THE PIPELINE AT STATION INLET.
  - VALVE GOOV-1001 SHALL CLOSE ON LOW LOW PRESSURE OF THE PIPELINE AT STATION OUTLET.






REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	30.04.22	ISSUED FOR IDC	AK	AD	SKP

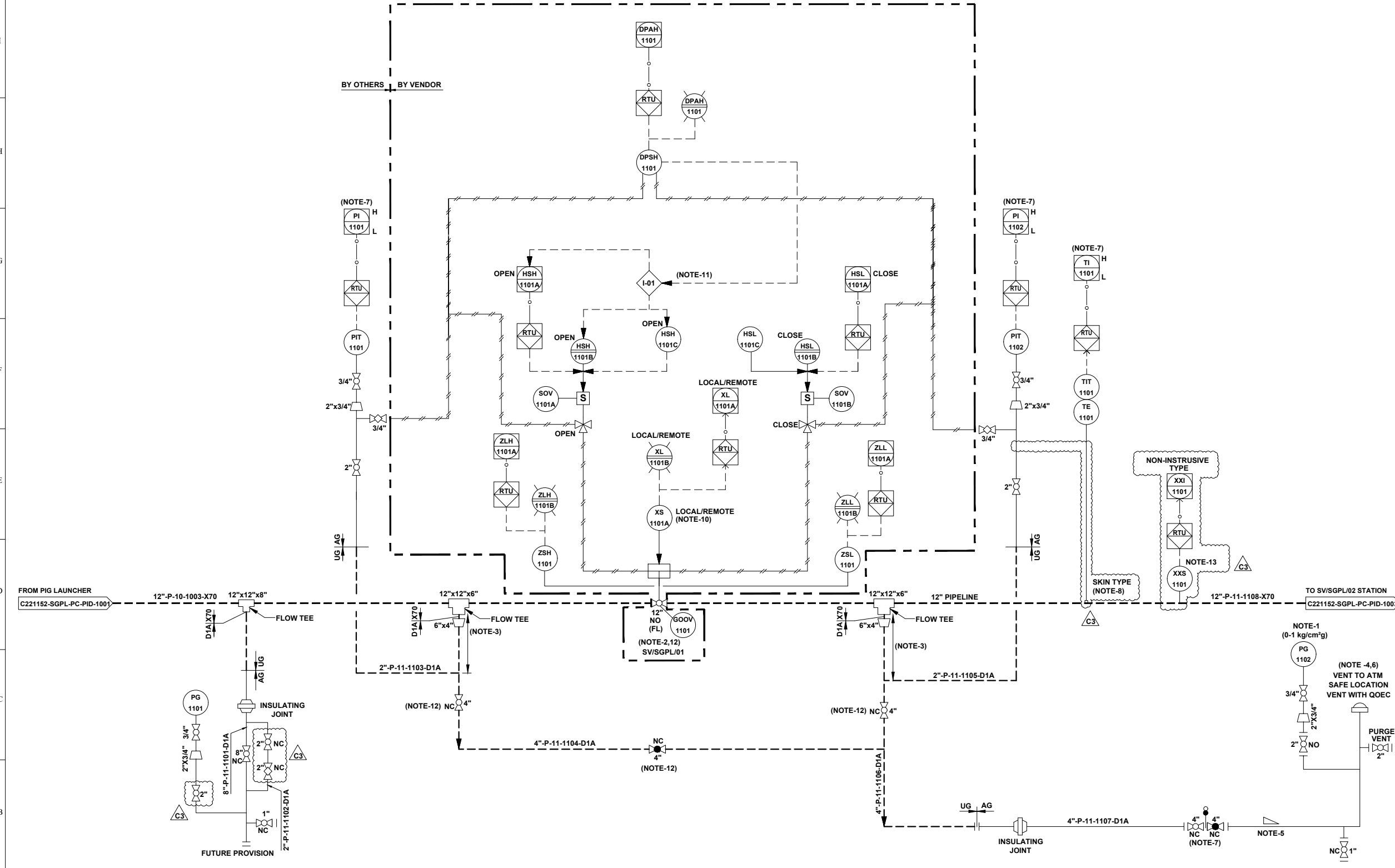
<b>CLIENT:</b>	<b>INDRADHANUSH GAS GRID LIMITED</b>		
<b>PMC:</b>	<b>VCS QUALITY SERVICES PVT. LTD.</b>		
<b>PROJECT:</b>	<b>NORTH EAST GAS GRID PHASE-III OF IGGL</b>		
<b>TITLE:</b>	<b>P&amp;ID FOR DISPATCH TERMINAL DT/SGPL AT SILIGURI</b>		
<b>SCALE:</b>	<b>N. T. S</b>	<b>TOTAL NO. OF SHTS:</b>	<b>1 OF 1</b>
<b>SIZE</b>	<b>JOB NO.</b>	<b>DRAWING NUMBER</b>	<b>REV.</b>
A1	C221052	C221052-SGPL-PC-PID-1001	C3

SV STATION	
TAG NO	SV/SGPL/01
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C 

**UNIT-11**

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1000

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 1101/1102 & TIT-1101 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMOPAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
-  COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
 COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/ cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES. 



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	04.05.22	ISSUED FOR IDC	AK	AD	SKP

**CLIENT:**  
 **INDRADHANUSH GAS GRID LIMITED**

**PMC:**  
 **VCS QUALITY SERVICES PVT. LTD.**

**PROJECT:**  
**NORTH EAST GAS GRID PHASE-III OF IGGL**

**TITLE:**  
**P&ID FOR SV/SGPL/01 STATION AT SILIGURI - GANGTOK PIPELINE**

SCALE:	N.T.S	TOTAL NO. OF SHTS:	1 OF 1
SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-SGPL-PC-PID-1002	C3

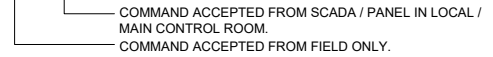
SV STATION	
TAG NO	SV/SGPL/02
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

**UNIT-12**

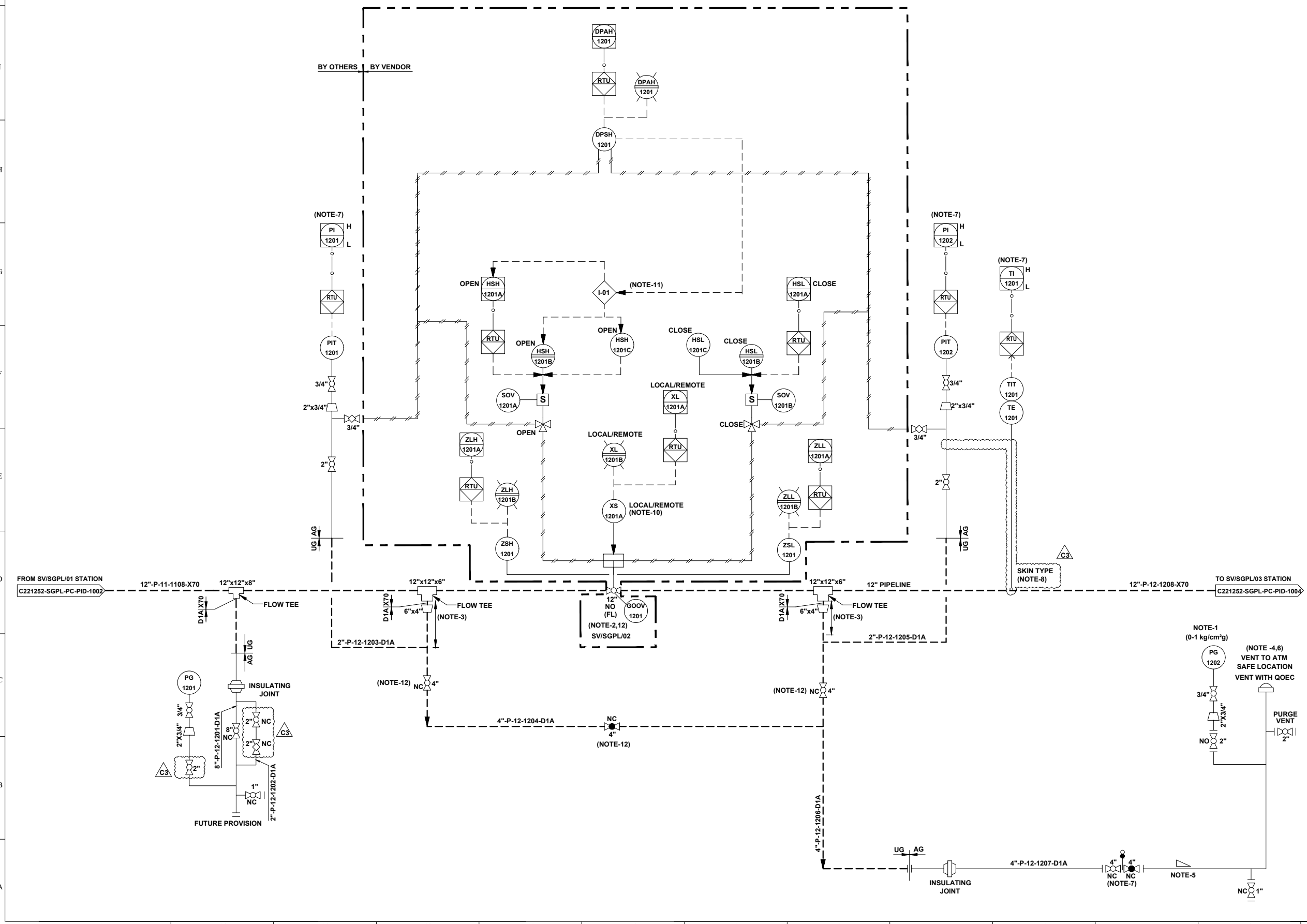
REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1000

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.

- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 1201/1202 & TIT-1201 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMOPAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE



- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/ cm<sup>2</sup>) ACROSS THE VALVE.
- BURIED VALVE WITH STEM EXTENSION.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	04.05.22	ISSUED FOR IDC	AK	AD	SKP

<p><b>INDRADHANUSH GAS GRID LIMITED</b></p>					
<p><b>VCS QUALITY SERVICES PVT. LTD.</b></p>					
<p><b>PROJECT:</b></p> <p><b>NORTH EAST GAS GRID PHASE-III OF IGGL</b></p>					
<p><b>TITLE:</b></p> <p><b>P&amp;ID FOR SV/SGPL/02 STATION AT SILIGURI - GANGTOK PIPELINE</b></p>					
SCALE:	N.T.S	TOTAL NO. OF SHTS:	1 OF 1		
SIZE	JOB NO.	DRAWING NUMBER	REV.		
A1	C221052	C221052-SGPL-PC-PID-1003	390 of 411 C3		

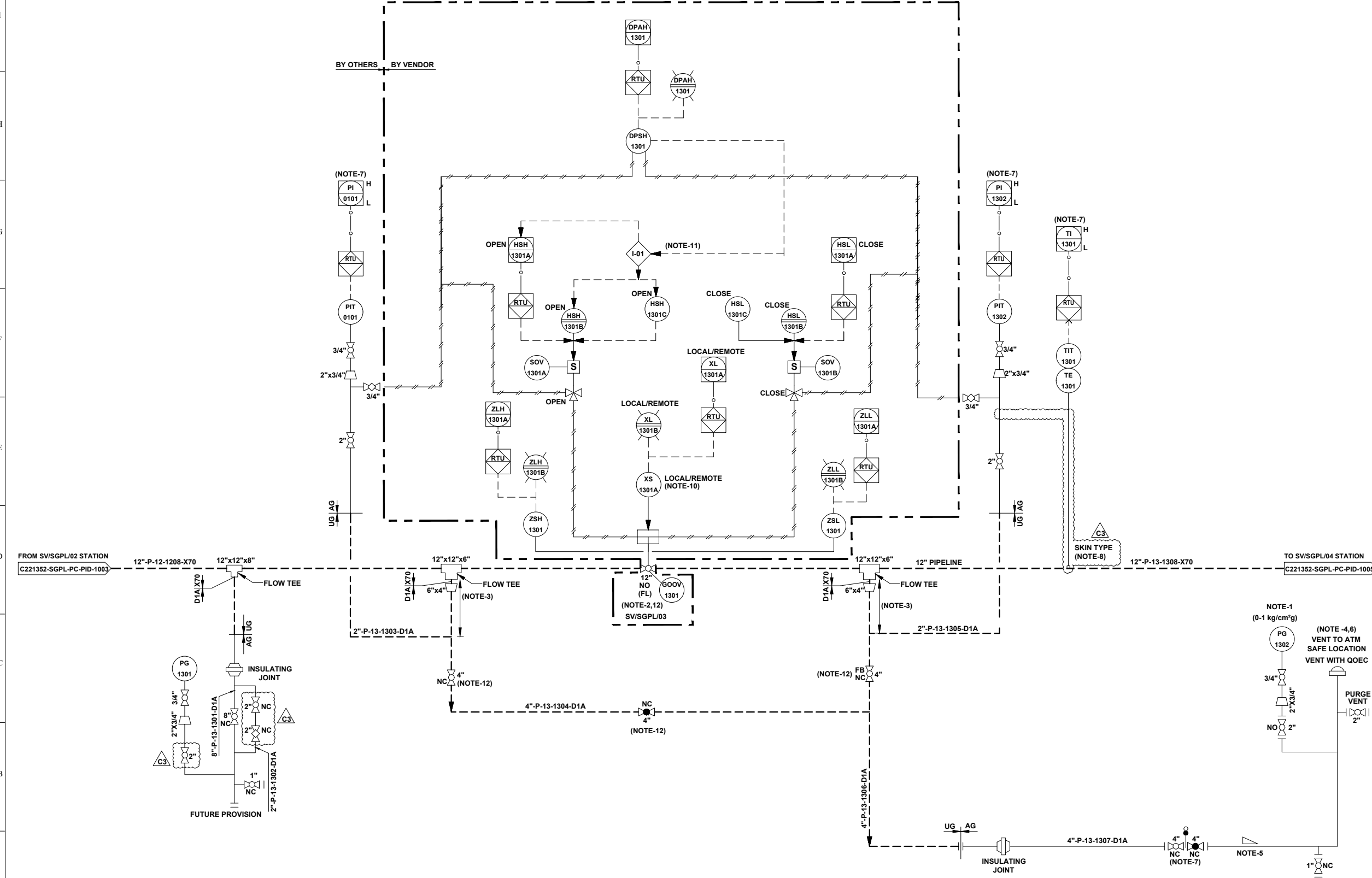
UNIT-13

SV STATION	
TAG NO	SV/SGPL/03
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221352-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221352-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.

- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 1301/1302 & TIT-1301 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMOPAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
- COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
 COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/ cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	04.05.22	ISSUED FOR IDC	AK	AD	SKP

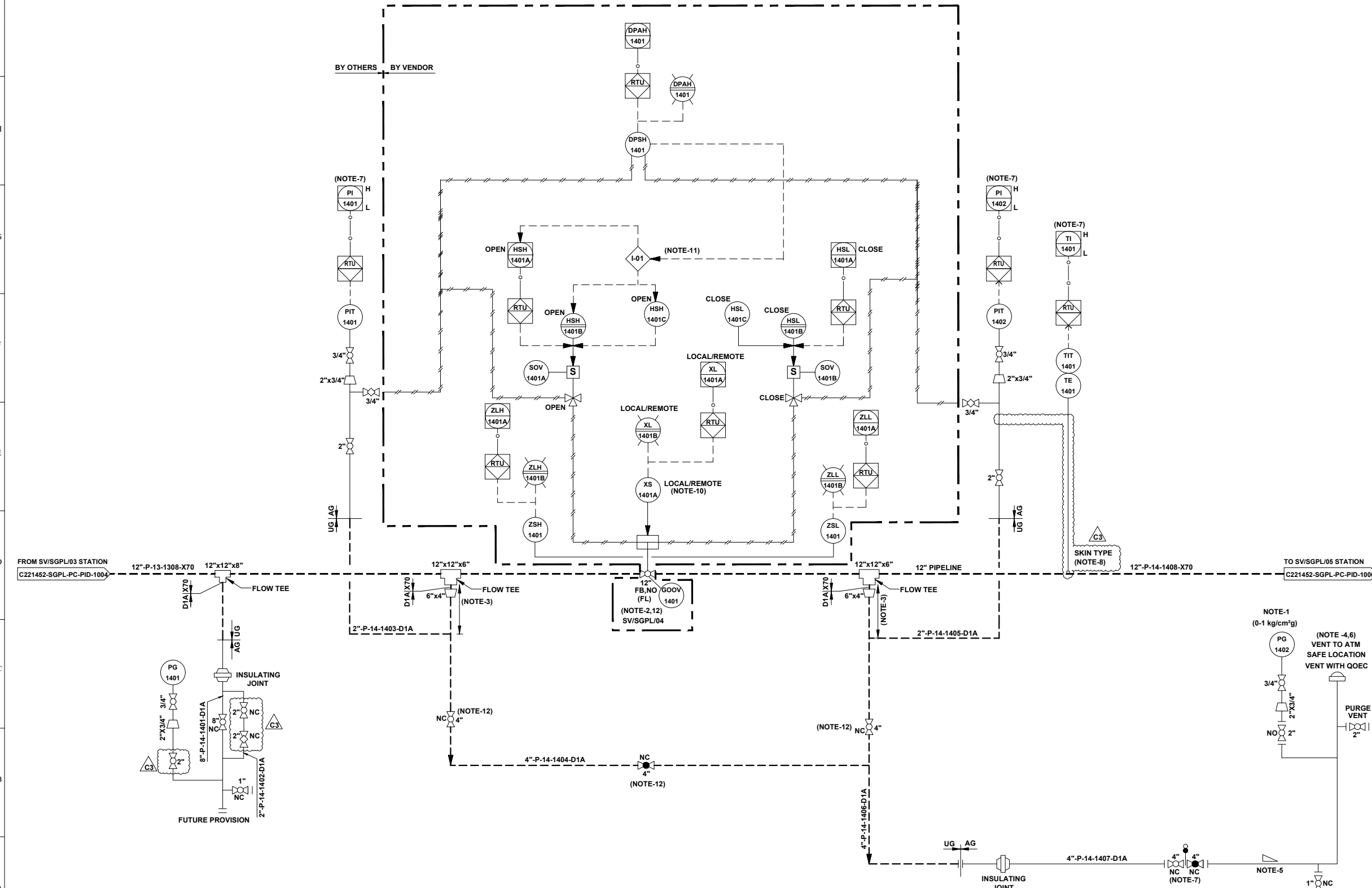
<b>INDRADHANUSH GAS GRID LIMITED</b>	
<b>VCS QUALITY SERVICES PVT. LTD.</b>	
<b>PROJECT:</b> NORTH EAST GAS GRID PHASE-III OF IGGL	
<b>TITLE:</b> P&ID FOR SV/SGPL/03 STATION AT SILIGURI - GANGTOK PIPELINE	
SCALE: N.T.S	TOTAL NO. OF SHTS: 1 OF 1
SIZE: A1	JOB NO.: C221052
DRAWING NUMBER: 391 of 411	REV.: C3

UNIT-14

SV STATION	
TAG NO	SV/SGPL/04
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C $\Delta$ C3

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221352-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221352-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 1401/1402 & TIT-1401 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMOPAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
- COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.
   
 — COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/cm<sup>2</sup>g) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	04.05.22	ISSUED FOR IDC	AK	AD	SKP

CLIENT: **INDRADHANUSH GAS GRID LIMITED**

PMC: **VCS QUALITY SERVICES PVT. LTD.**

PROJECT: **NORTH EAST GAS GRID PHASE-III OF IGGL**

TITLE: **P&ID FOR SV/SGPL/04 STATION AT SILIGURI - GANGTOK PIPELINE**

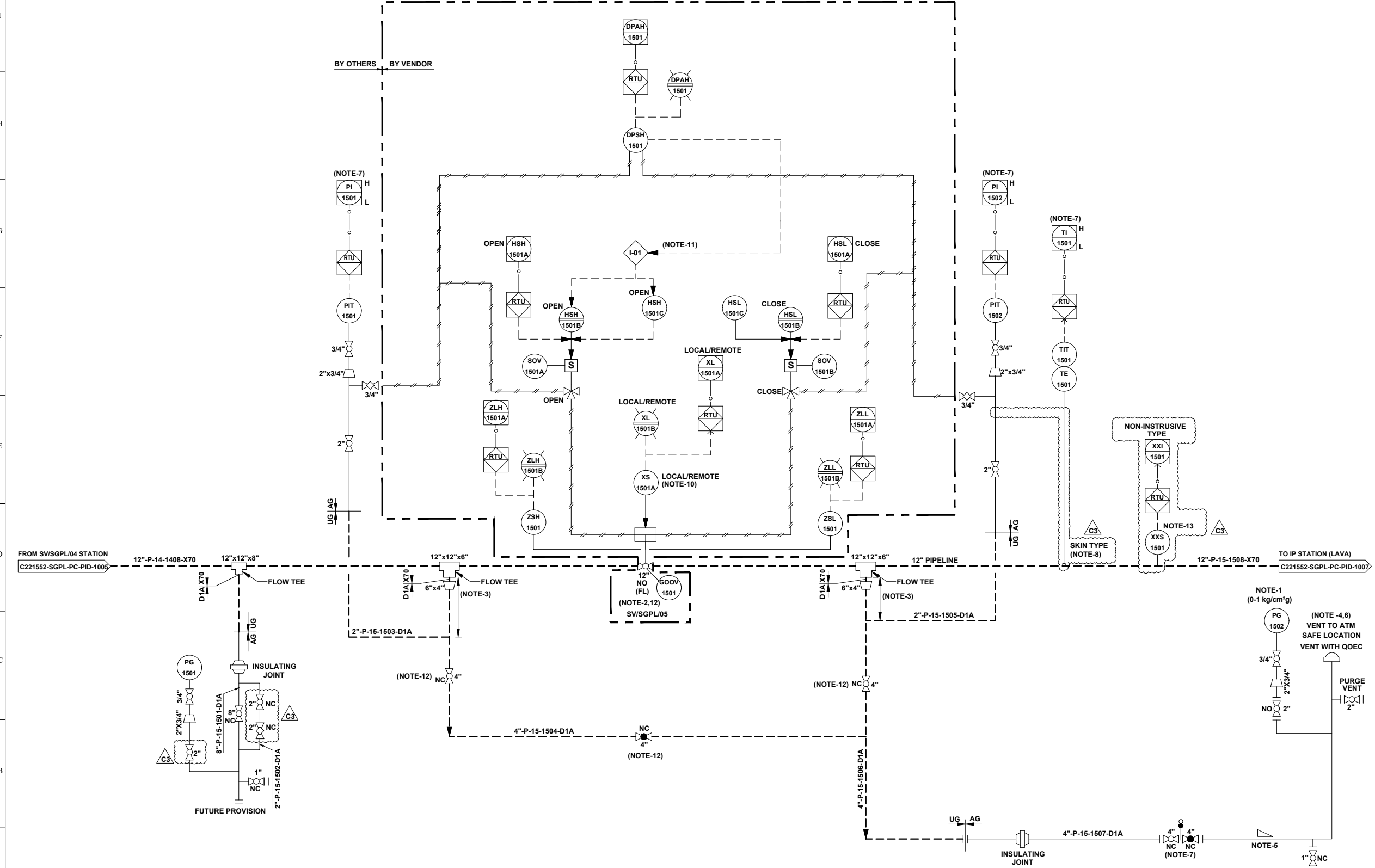
SCALE:	N.T.S	TOTAL NO. OF SHTS:	1 OF 1
SIZE:	A1	DRAWING NUMBER:	392 of 411
JOB NO.:	C221052	DRAWING NUMBER:	C221052-SGPL-PC-PID-1005
REV.:	C3		

UNIT-15

SV STATION	
TAG NO	SV/SGPL/05
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1000

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221352-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221352-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 1501/1502 & TIT-1501 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMOPAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
- COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
 COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	04.05.22	ISSUED FOR IDC	AK	AD	SKP

CLIENT:	<b>INDRADHANUSH GAS GRID LIMITED</b>				
PMC:	<b>VCS QUALITY SERVICES PVT. LTD.</b>				
PROJECT:	<b>NORTH EAST GAS GRID PHASE-III OF IGGL</b>				
TITLE:	<b>P&amp;ID FOR SV/SGPL/05 STATION AT SILIGURI - GANGTOK PIPELINE</b>				
SCALE:	N.T.S	TOTAL NO. OF SHTS:	1 OF 1		
SIZE:	JOB NO.	DRAWING NUMBER	REV.		
A1	C221052	C221052-SGPL-PC-PID-1006	39.3 OF 411 C3		

UNIT-16

PIG LAUNCHER / PIG RECEIVER	
TAG NO.	IP/SGPL-1601 / 1602
SERVICE FLUID	NATURAL GAS
SIZE MAJOR / MINOR	18" / 12"
DESIGN PRESSURE	92 kg/ cm <sup>2</sup> g
DESIGN TEMPERATURE	-29°C TO 65°C
OPERATING PRESSURE	30 kg/ cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1000


- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.


- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) PROVIDED WITH GAUGE SAVER.
  - DISTANCE SHALL BE AT LEAST EQUAL TO THE LENGTH OF THE LONGEST INTELLIGENT PIG.
  - BRANCH VALVE SHALL BE LOCATED AT MINIMUM DISTANCE.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PG-1611, PG-1612 & TIT-1602 / 1603 CAN BE READ DURING VENTING.
  - VENT SHALL BE WITH QOEC.
  - ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF PIPE IF ANY FOR LOW POINT DRAIN CONNECTION.
  - JUMPERS SHALL BE PROVIDED ACROSS ALL FLANGES.
  - PG-1607 & 1615 SHALL HAVE A RANGE OF (0-5 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER AND LEAST COUNT OF 0.1 kg/cm<sup>2</sup>g.
  - PROVISION OF A TROLLEY WITH PUSH ROD & PULLING LINE SHALL BE CONSIDERED TO ASSIST LOADING OR REMOVAL OF PIGS FROM THE SCRAPER TRAP.
  - GAS DETECTORS TO BE PROVIDED IN DOWN WIND DIRECTION NEAR FLOW METERS, PIG BARRELS TO MONITOR LEAKAGE FROM FAILURE PRONE EQUIPMENTS PARTS, ACCESSORIES, VALVE & PIPES.
  - VALVE POSITION SHALL BE FAIL LAST.
  - ALL VENTS SHALL BE PROVIDED MIN. 3M HIGH FROM NEAREST HIGHEST OPERATING PLATFORM OR NEARBY STRUCTURE WITHIN 15M WHICHEVER IS HIGHER. NON SPARKING MATERIAL (BRASS) SHALL BE USED FOR FLAPPER TYPE VENT CONNECTION.
  - QUICK OPENING END CLOSURE TYPING DOOR CANNOT BE OPENED UNLESS PIG BARREL AND CONNECTED TYPING IS FULLY DEPRESSURIZE.
  - NECESSARY I/O's & SIGNAL FOR INTERFACE WITH SCADA SHALL BE DEVELOPED SEPARATELY.
  - ACTUATOR DETAILS OF GOV CONTROL LOGIC SHALL BE AS PER P&ID.
  - 'CC' SHALL BE OF WEIGHT LOSS TYPE.
  - ONLINE RETRIEVAL TYPE CORROSION MONITORING COUPON AND CORROSION PROBE SHALL BE PROVIDED FURTHER WHEREVER SCADA SYSTEM ARE AVAILABLE, THIS SYSTEM SHALL BE ONLINE SCADA COMPATIBLE OTHERWISE DATA SHALL BE COLLECTED BY OFFLINE DATA LOGGER.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.
  - THERMOPAD SHALL BE WELDED TYPE.

- HOLDS:-**
- PSV's INLET & OUTLET SIZE ARE UNDER HOLD. SHALL BE FINALISED POST RECEIPT OF VENDOR DATA.
- INTER LOCK:-**
- VALVE GOOV-1604 SHALL CLOSE ON LOW LOW PRESSURE OF THE PIPELINE AT STATION INLET.
  - VALVE GOOV-1604 SHALL CLOSE ON LOW LOW PRESSURE OF THE PIPELINE AT STATION OUTLET.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	04.05.22	ISSUED FOR IDC	AK	AD	SKP

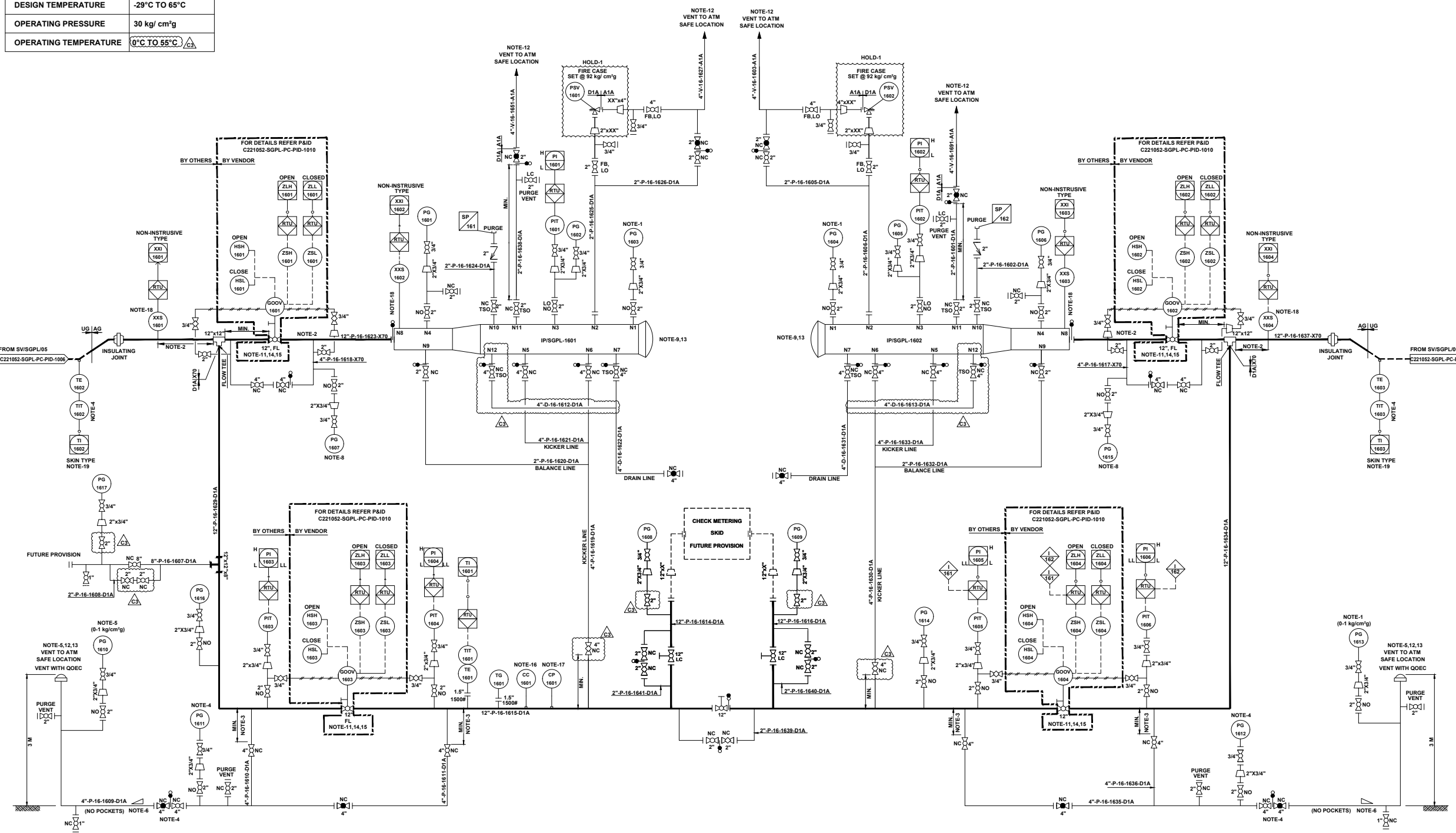
**CLIENT:**  
 **INDRADHANUSH GAS GRID LIMITED**

**PMC:**  
 **VCS QUALITY SERVICES PVT. LTD.**

**PROJECT:**  
**NORTH EAST GAS GRID PHASE-III OF IGGL**

**TITLE:**  
**P&ID FOR IP STATION AT LAVA (WEST BENGAL)**

SCALE:	N. T. S	TOTAL NO. OF SHTS:	1 OF 1
SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-SGPL-PC-PID-1007	C3

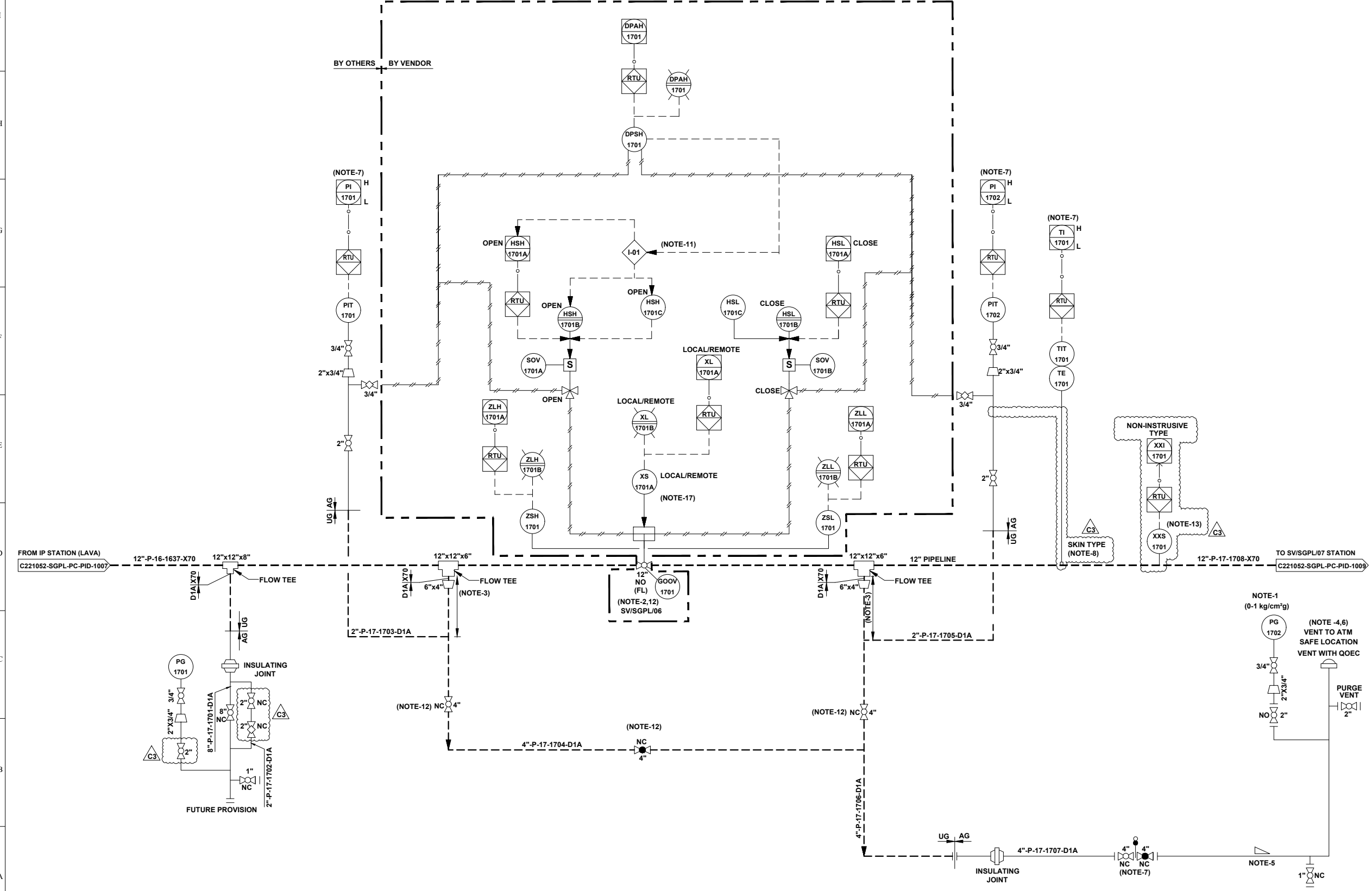


SV STATION	
TAG NO	SV/SGPL/06
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

**UNIT-17**

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1000

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 1701/1702 & TIT-1701 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMOPAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
- COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
 COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	04.05.22	ISSUED FOR IDC	AK	AD	SKP

<b>INDRADHANUSH GAS GRID LIMITED</b>	
<b>VCS QUALITY SERVICES PVT. LTD.</b>	
<b>PROJECT:</b> NORTH EAST GAS GRID PHASE-III OF IGGL	
<b>TITLE:</b> P&ID FOR SV/SGPL/06 STATION AT SILIGURI - GANGTOK PIPELINE	
SCALE: N.T.S	TOTAL NO. OF SHTS: 1 OF 1
SIZE: A1	JOB NO.: C221052
DRAWING NUMBER: 395 of 411	REV.: C3
C221052-SGPL-PC-PID-1008	

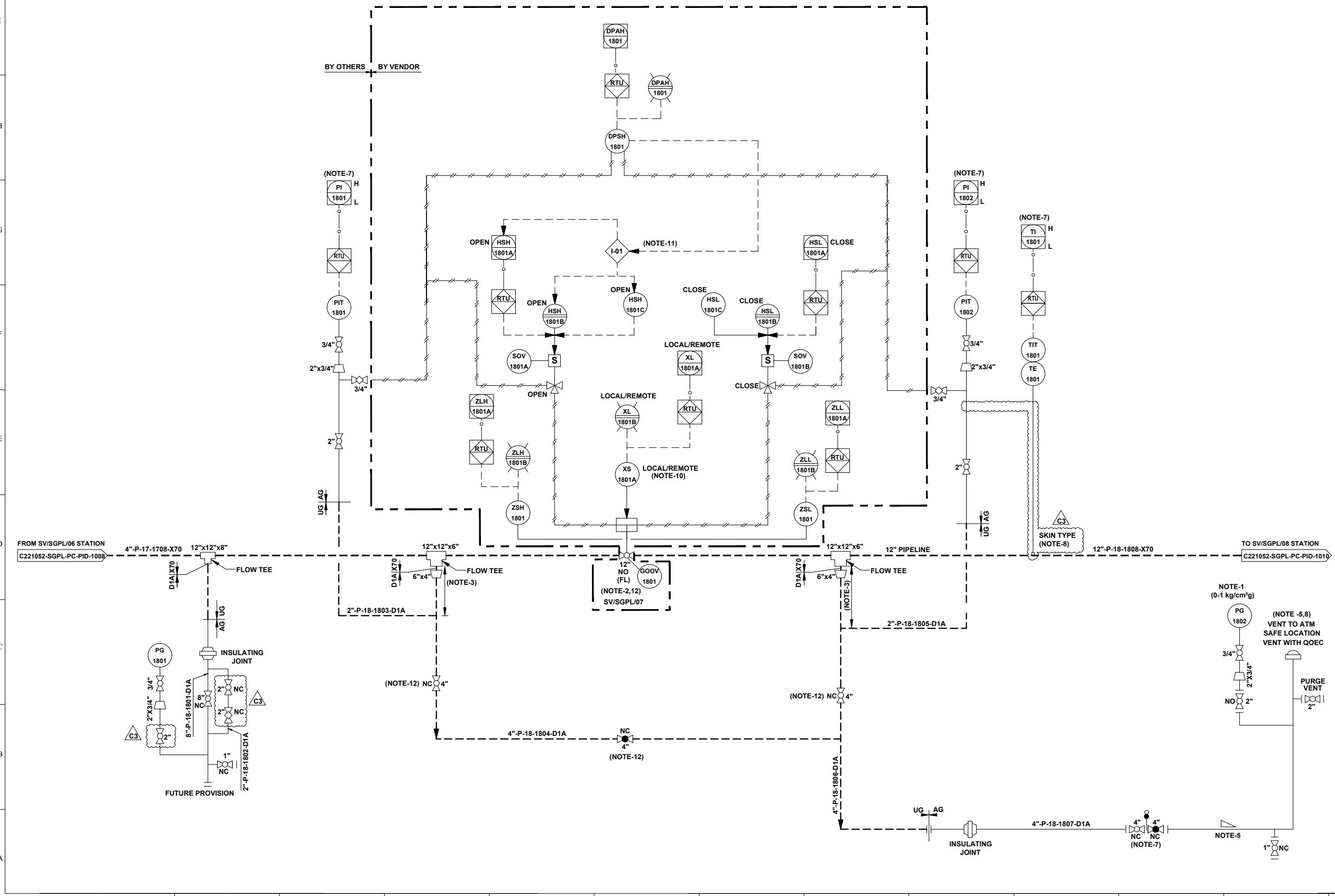
UNIT-18

SV STATION	
TAG NO	SV/SGPL/07
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1000

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.


- NOTES :-**
- VALVES UP TO 4" SHALL BE LEVER OPERATED TYPE & ABOVE 4" SHALL BE HYDRAULIC OPERATED TYPE.
  - VALVE SHALL BE FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 1801/1802 & TIT-1801 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMOPAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
- COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
 COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/ cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.
  - LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.



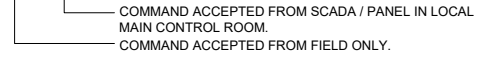

REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	04.05.22	ISSUED FOR IDC	AK	AD	SKP

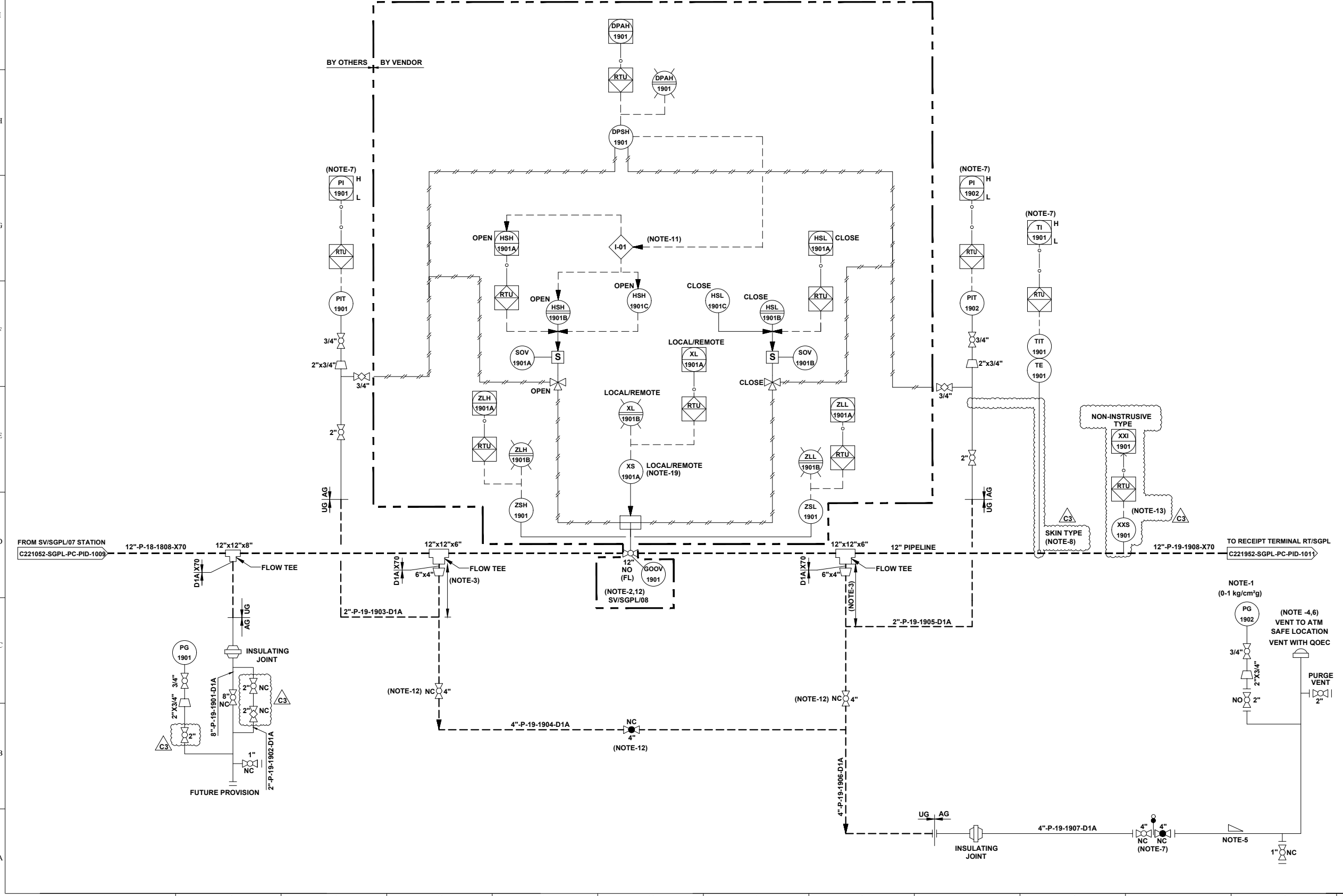
<b>INDRADHANUSH GAS GRID LIMITED</b>	
<b>VCS QUALITY SERVICES PVT. LTD.</b>	
<b>PROJECT:</b> NORTH EAST GAS GRID PHASE-III OF IGGL	
<b>TITLE:</b> P&ID FOR SV/SGPL/07 STATION AT SILIGURI - GANGTOK PIPELINE	
SCALE: N.T.S	TOTAL NO. OF SHTS: 1 OF 1
SIZE: A1	JOB NO.: C221052
DRAWING NUMBER: 396 OF 411	REV.: C3
C221052-SGPL-PC-PID-1009	

### UNIT-19



SV STATION	
TAG NO	SV/SGPL/08
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C 

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1000

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221152-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 1901/1902 & TIT-1901 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMOPAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
- 
  
 COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.
   
 COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES. 



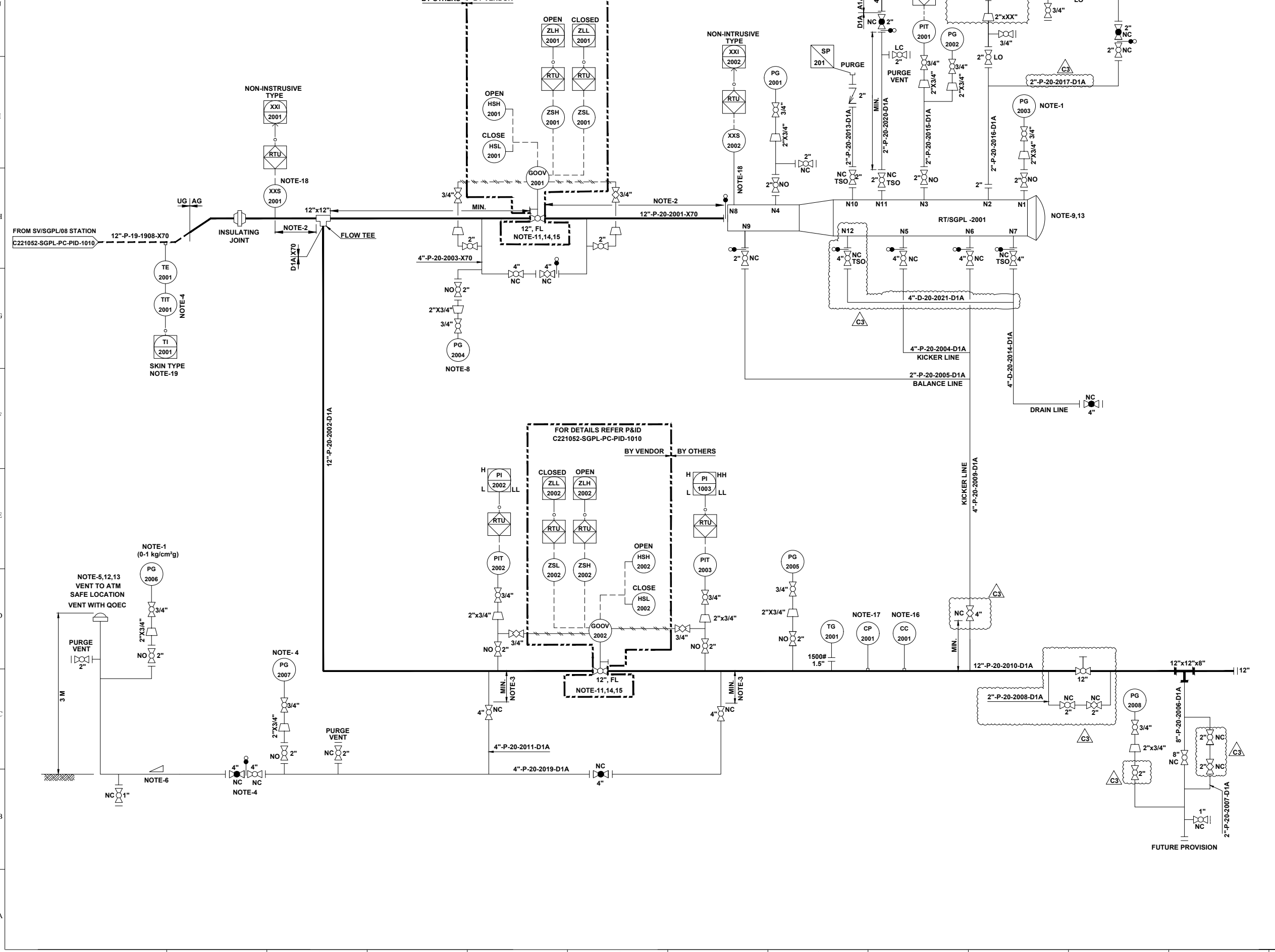
REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	04.05.22	ISSUED FOR IDC	AK	AD	SKP

<b>CLIENT:</b>  <b>INDRADHANUSH GAS GRID LIMITED</b>					
<b>PMC:</b>  <b>VCS QUALITY SERVICES PVT. LTD.</b>					
<b>PROJECT:</b> <b>NORTH EAST GAS GRID PHASE-III OF IGGL</b>					
<b>TITLE:</b> <b>P&amp;ID FOR SV/SGPL/08 STATION AT SILIGURI - GANGTOK PIPELINE</b>					
<b>SCALE:</b>	N.T.S	<b>TOTAL NO. OF SHTS:</b>	1 OF 1		
<b>SIZE</b>	JOB NO.	<b>DRAWING NUMBER</b>	REV.		
A1	C221052	C221052-SGPL-PC-PID-1010	397 of 411 C3		

UNIT-20

PIG LAUNCHER	
TAG NO.	RT/SGPL-2001
SERVICE FLUID	NATURAL GAS
SIZE MAJOR / MINOR	18" / 12"
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29°C TO 65°C
OPERATING PRESSURE	30 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1000



- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-SGPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-SGPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE.
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - DISTANCE SHALL BE AT LEAST EQUAL TO THE LENGTH OF THE LONGEST INTELLIGENT PIG.
  - BRANCH VALVE SHALL BE LOCATED AT MINIMUM DISTANCE.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PG-2007 & TIT-2001 CAN BE READ DURING VENTING.
  - VENT SHALL BE WITH QOEC.
  - ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF PIPE IF ANY FOR LOW POINT DRAIN CONNECTION.
  - JUMPERS SHALL BE PROVIDED ACROSS ALL FLANGES.
  - PG-2004 SHALL HAVE A RANGE OF (0-5 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER AND LEAST COUNT OF 0.1 kg/cm<sup>2</sup>g.
  - PROVISION OF A TROLLEY WITH PUSH ROD & PULLING LINE SHALL BE CONSIDERED TO ASSIST LOADING OR REMOVAL OF PIGS FROM THE SCRAPER TRAP.
  - GAS DETECTORS TO BE PROVIDED IN DOWN WIND DIRECTION NEAR PIG BARRELS TO MONITOR LEAKAGE FROM FAILURE PRONE EQUIPMENTS PARTS, ACCESSORIES, VALVE & PIPES.
  - VALVE POSITION SHALL BE FAIL LAST.
  - ALL VENTS SHALL BE PROVIDED MIN. 3M HIGH FROM NEAREST HIGHEST OPERATING PLATFORM OR NEARBY STRUCTURE WITHIN 15M WHICHEVER IS HIGHER. NON SPARKING MATERIAL (BRASS) SHALL BE USED FOR FLAPPER TYPE VENT CONNECTION.
  - QUICK OPENING END CLOSURE TYPE DOOR CANNOT BE OPENED UNLESS PIG BARREL AND CONNECTED PIPING IS FULLY DEPRESSURIZE.
  - NECESSARY I/O's & SIGNAL FOR INTERFACE WITH SCADA SHALL BE DEVELOPED SEPARATELY.
  - ACTUATOR DETAILS OF GOOV CONTROL LOGIC SHALL BE AS PER P&ID.
  - ONLINE RETRIEVAL TYPE CORROSION MONITORING COUPON AND CORROSION PROBE SHALL BE PROVIDED FURTHER WHEREVER SCADA SYSTEM ARE AVAILABLE, THIS SYSTEM SHALL BE ONLINE SCADA COMPATIBLE OTHERWISE DATA SHALL BE COLLECTED BY OFFLINE DATA LOGGER.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.
  - THERMOPAD SHALL BE WELDED TYPE.

- HOLDS:-**
- PSVs INLET & OUTLET SIZE ARE UNDER HOLD. SHALL BE FINALISED POST RECEIPT OF VENDOR DATA.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	SKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	16.05.22	ISSUED FOR CLIENT REVIEW	AK	AD	SKP
B1	30.04.22	ISSUED FOR IDC	AK	AD	SKP

**CLIENT:**  
 INDRADHANUSH GAS GRID LIMITED

**PMC:**  
 VCS QUALITY SERVICES PVT. LTD.

**PROJECT:**  
 NORTH EAST GAS GRID PHASE-III OF IGGL

**TITLE:**  
 P&ID FOR RECEIPT TERMINAL RT/SGPL AT GANGTOK

SCALE:	N. T. S	TOTAL NO. OF SHTS:	1 OF 1
SIZE	A1	JOB NO.	C221052
		DRAWING NUMBER	398 OF 411
		REV.	C3

UNIT NO. 34

PIG LAUNCHER	
TAG NO.	DT/DIPL-3401
SERVICE FLUID	NATURAL GAS
SIZE MAJOR / MINOR	18" / 12"
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29°C TO 65°C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE

- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - DISTANCE SHALL BE AT LEAST EQUAL TO THE LENGTH OF THE LONGEST INTELLIGENT PIG.
  - BRANCH VALVE SHALL BE LOCATED AT MINIMUM DISTANCE.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PG-3405 AND TIT-3401 CAN BE READ DURING VENTING.
  - VENT SHALL BE WITH QOEC.
  - ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF PIPE IF ANY FOR LOW POINT DRAIN CONNECTION.
  - JUMPERS SHALL BE PROVIDED ACROSS ALL FLANGES.
  - PG-3407 SHALL HAVE A RANGE OF (0-5 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER AND LEAST COUNT OF 0.1 kg/cm<sup>2</sup>g.
  - PROVISION OF A TROLLEY WITH PUSH ROD & PULLING LINE SHALL BE CONSIDERED TO ASSIST LOADING OR REMOVAL OF PIGS FROM THE SCRAPER TRAP.
  - GAS DETECTORS TO BE PROVIDED IN DOWN WIND DIRECTION NEAR PIG BARRELS TO MONITOR LEAKAGE FROM FAILURE PRONE EQUIPMENTS PARTS ACCESSORIES, VALVE & PIPES.
  - VALVE POSITION SHALL BE FAIL LAST.
  - ALL VENTS SHALL BE PROVIDED MIN. 3M HIGH FROM NEAREST HIGHEST OPERATING PLATFORM OR NEARBY STRUCTURE WITHIN 15M WHICHEVER IS HIGHER. NON SPARKING MATERIAL (BRASS) SHALL BE USED FOR FLAPPER TYPE VENT CONNECTION.
  - QUICK OPENING END CLOSURE TYPE DOOR CANNOT BE OPENED UNLESS PIG BARREL AND CONNECTED PIPING IS FULLY DEPRESSURIZED.
  - NECESSARY I/O's & SIGNAL FOR INTERFACE WITH SCADA SHALL BE DEVELOPED SEPARATELY.
  - ACTUATOR DETAILS OF GOOV CONTROL LOGIC SHALL BE AS PER P&ID.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.
  - THERMO PAD SHALL BE WELDED TYPE.

- HOLDS:-**
- PSVs INLET & OUTLET SIZE ARE UNDER HOLD. SHALL BE FINALISED POST RECEIPT OF VENDOR DATA.

- INTER LOCK :**
- VALVE GOOV-3401 SHALL CLOSE ON LOW LOW PRESSURE OF THE PIPELINE AT STATION INLET.
  - VALVE GOOV-3401 SHALL CLOSE ON LOW LOW PRESSURE OF THE PIPELINE AT STATION OUTLET.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

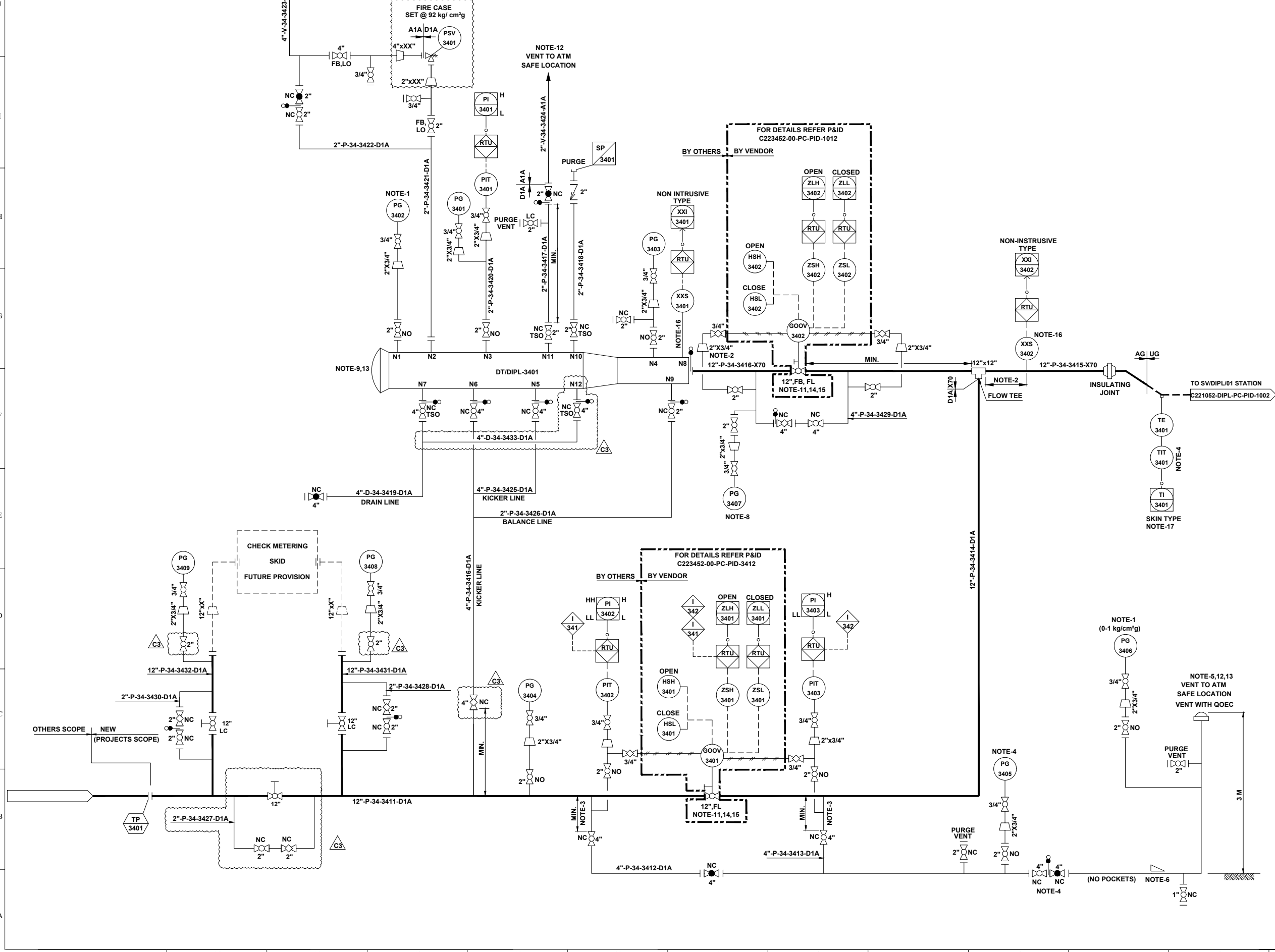
CLIENT: **INDRADHANUSH GAS GRID LIMITED**

PMC: **VCS QUALITY SERVICES PVT. LTD.**

PROJECT: **NORTH EAST GAS GRID PHASE-III OF IGGL**

TITLE: **P&ID FOR DISPATCH TERMINAL DT/DIPL AT DIMAPUR**

SCALE:	N. T. S	TOTAL NO. OF SHTS:	1 OF 1
SIZE:	A1	DRAWING NUMBER:	399 OF 411
JOB NO.:	C221052	DRAWING NUMBER:	C221052-DIPL-PC-PID-1001
REV.:	C3		



UNIT NO. 35

SV STATION	
TAG NO	SV/DIPL/01
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

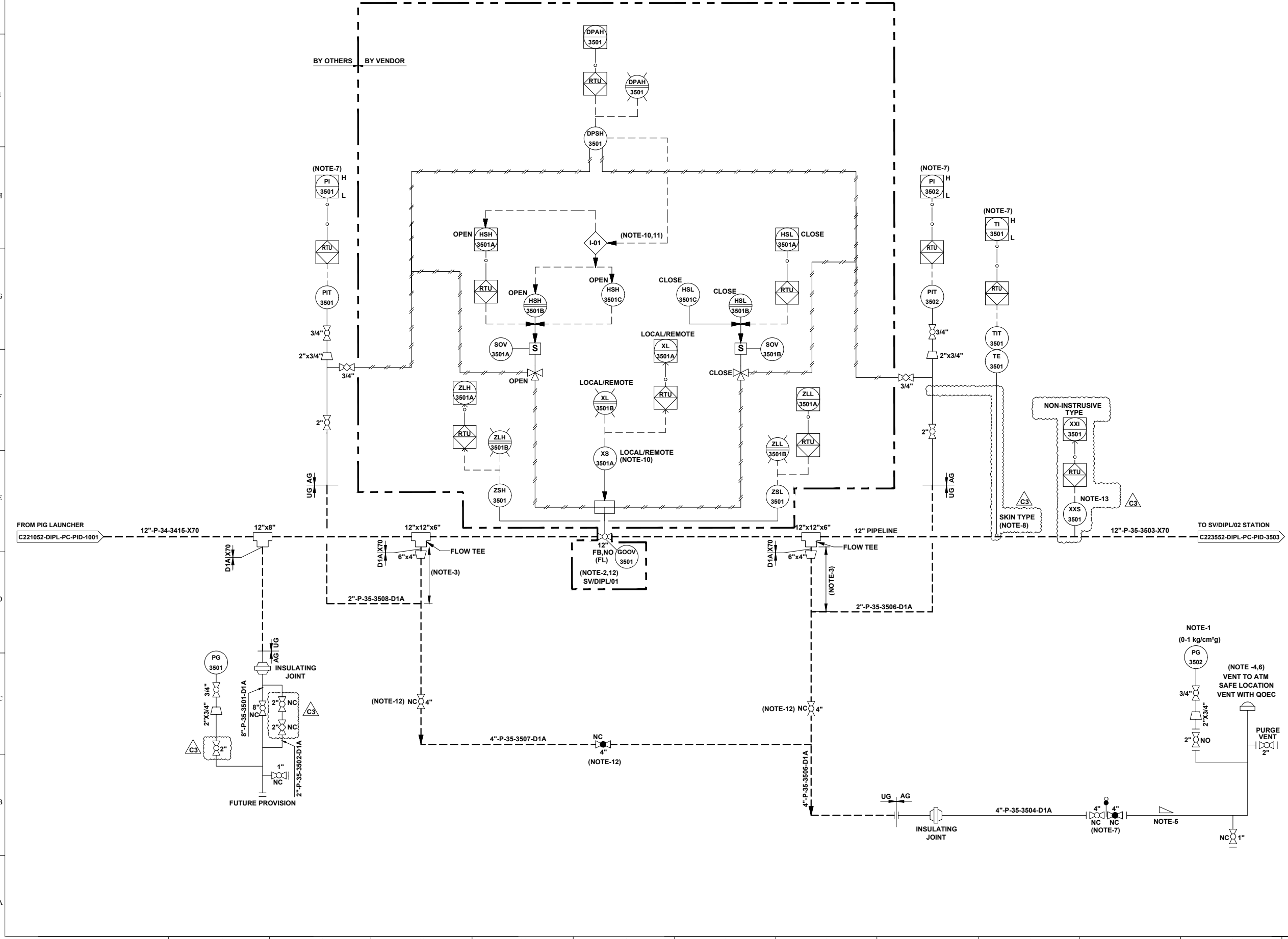
REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

**GENERAL NOTES:-**

- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
- ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
- ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE

**NOTES :-**

- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
- VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
- MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
- VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
- LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
- VENT SHALL BE WITH QOEC.
- DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 3501/3502 & TIT-3501 ON TRANSMITTER CAN BE READ DURING VENTING.
- THERMO PAD SHALL BE WELDED TYPE.
- JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
- LOCAL / REMOTE
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/cm<sup>2</sup>) ACROSS THE VALVE.
- BURIED VALVE WITH STEM EXTENSION.
- PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

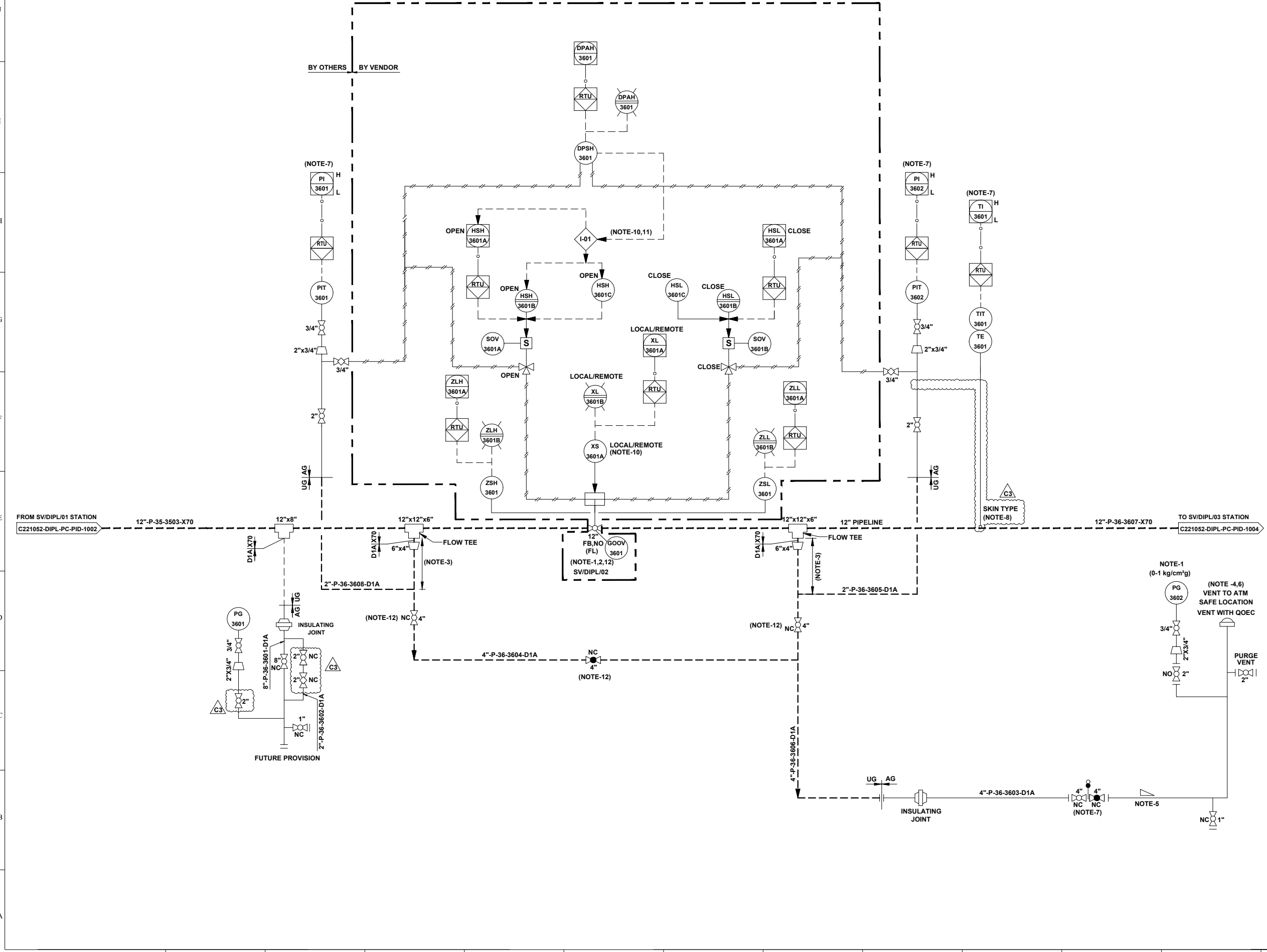
CLIENT:		<b>INDRADHANUSH GAS GRID LIMITED</b>		
PMC:		<b>VCS QUALITY SERVICES PVT. LTD.</b>		
PROJECT:		<b>NORTH EAST GAS GRID PHASE-III OF IGGL</b>		
TITLE:		<b>P&amp;ID FOR SV/DIPL/01 STATION AT DIMAPUR - KOHIMA - IMPHAL PIPELINE</b>		
SCALE:	N.T.S	TOTAL NO. OF SHTS:	1 OF 1	
SIZE	JOB NO.	DRAWING NUMBER	REV.	
A1	C221052	C221052-DIPL-PC-PID-1002	400 of 411 C3	

UNIT NO. 36

SV STATION	
TAG NO	SV/DIPL/02
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 3601/3602 & TIT-3601 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERM PAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
  - COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
COMMAND ACCEPTED FROM FIELD ONLY.
  - THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/ cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

**CLIENT:**  
**INDRADHANUSH GAS GRID LIMITED**

**PMC:**  
**VCS QUALITY SERVICES PVT. LTD.**

**PROJECT:**  
**NORTH EAST GAS GRID PHASE-III OF IGGL**

**TITLE:**  
**P&ID FOR SV/DIPL/02 STATION AT DIMAPUR - KOHIMA - IMPHAL PIPELINE**

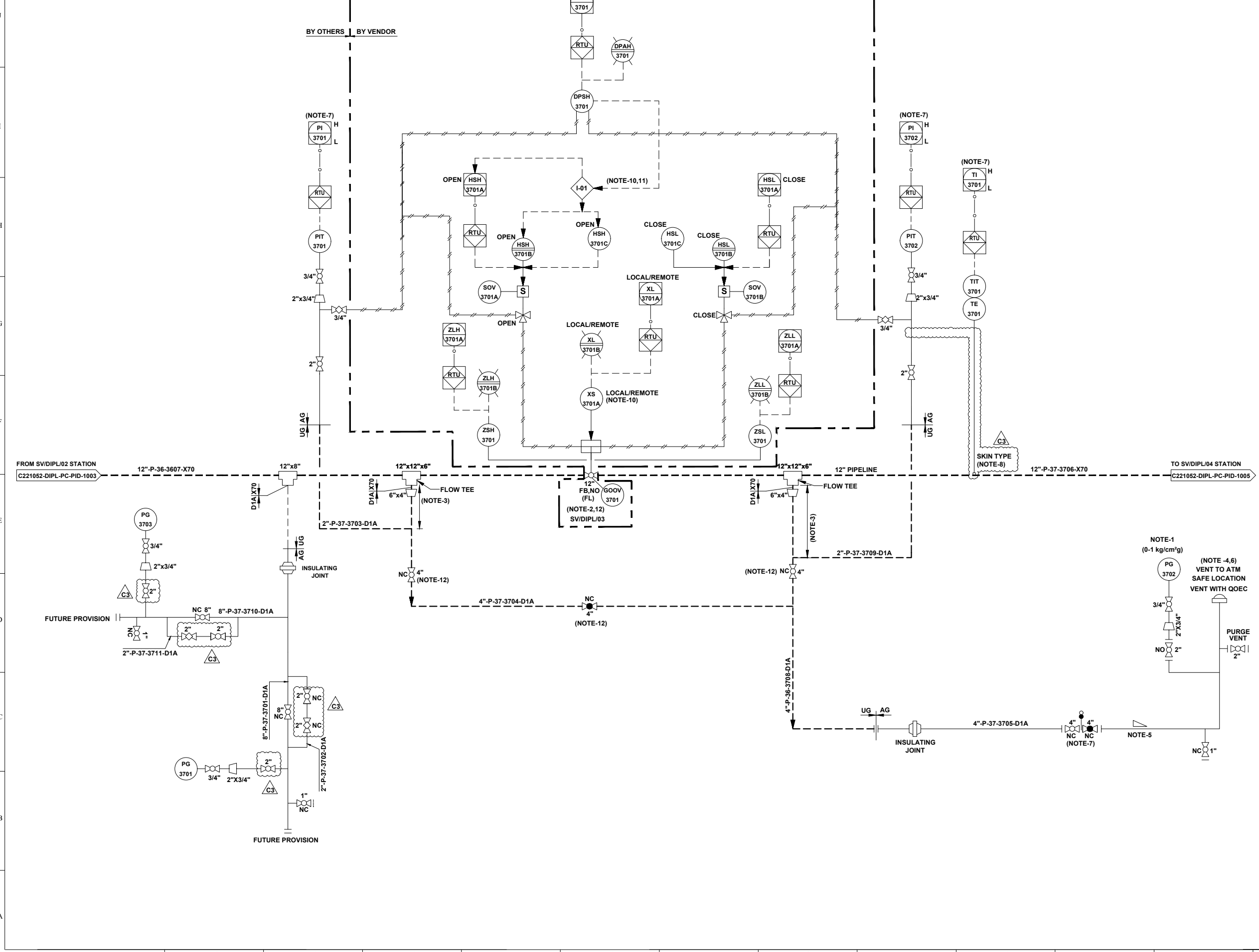
**SCALE:** N.T.S      **TOTAL NO. OF SHTS:** 1 OF 1

SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-DIPL-PC-PID-1003	C3

UNIT NO. 37

SV STATION	
TAG NO	SV/DIPL/03
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005



- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 3701/3702 & TIT-3701 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERM PAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
- COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
 COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg / cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

**CLIENT:** **INDRADHANUSH GAS GRID LIMITED**

**PMC:** **VCS QUALITY SERVICES PVT. LTD.**

**PROJECT:** **NORTH EAST GAS GRID PHASE-III OF IGGL**

**TITLE:** **P&ID FOR SV/DIPL/03 CUM RECEIPT TERMINAL STATION AT KOHIMA**

**SCALE:** N.T.S      **TOTAL NO. OF SHTS:** 1 OF 1

SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-DIPL-PC-PID-1004	C3

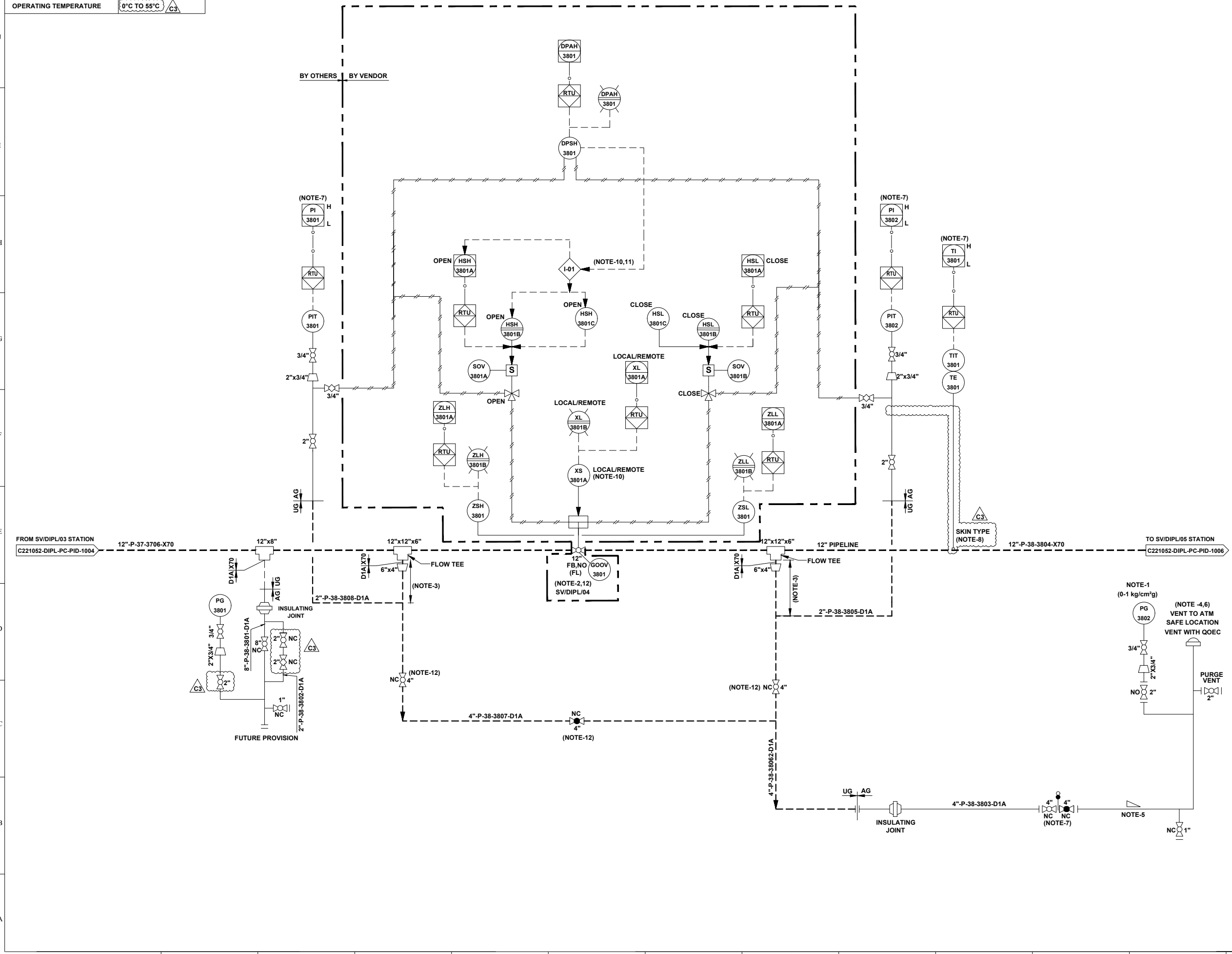
UNIT NO. 38

SV STATION	
TAG NO	SV/DIPL/04
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE

- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 3801/3802 & TIT-3801 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMOWELL SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
- COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg / cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

**CLIENT:**  
INDRADHANUSH GAS GRID LIMITED

**PMC:**  
VCS QUALITY SERVICES PVT. LTD.

**PROJECT:**  
NORTH EAST GAS GRID PHASE-III OF IGGL

**TITLE:**  
P&ID FOR SV/DIPL/04 STATION AT DIMAPUR - KOHIMA - IMPHAL PIPELINE

**SCALE:** N.T.S      **TOTAL NO. OF SHTS:** 1 OF 1

SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-DIPL-PC-PID-1005	C3

UNIT NO. 39

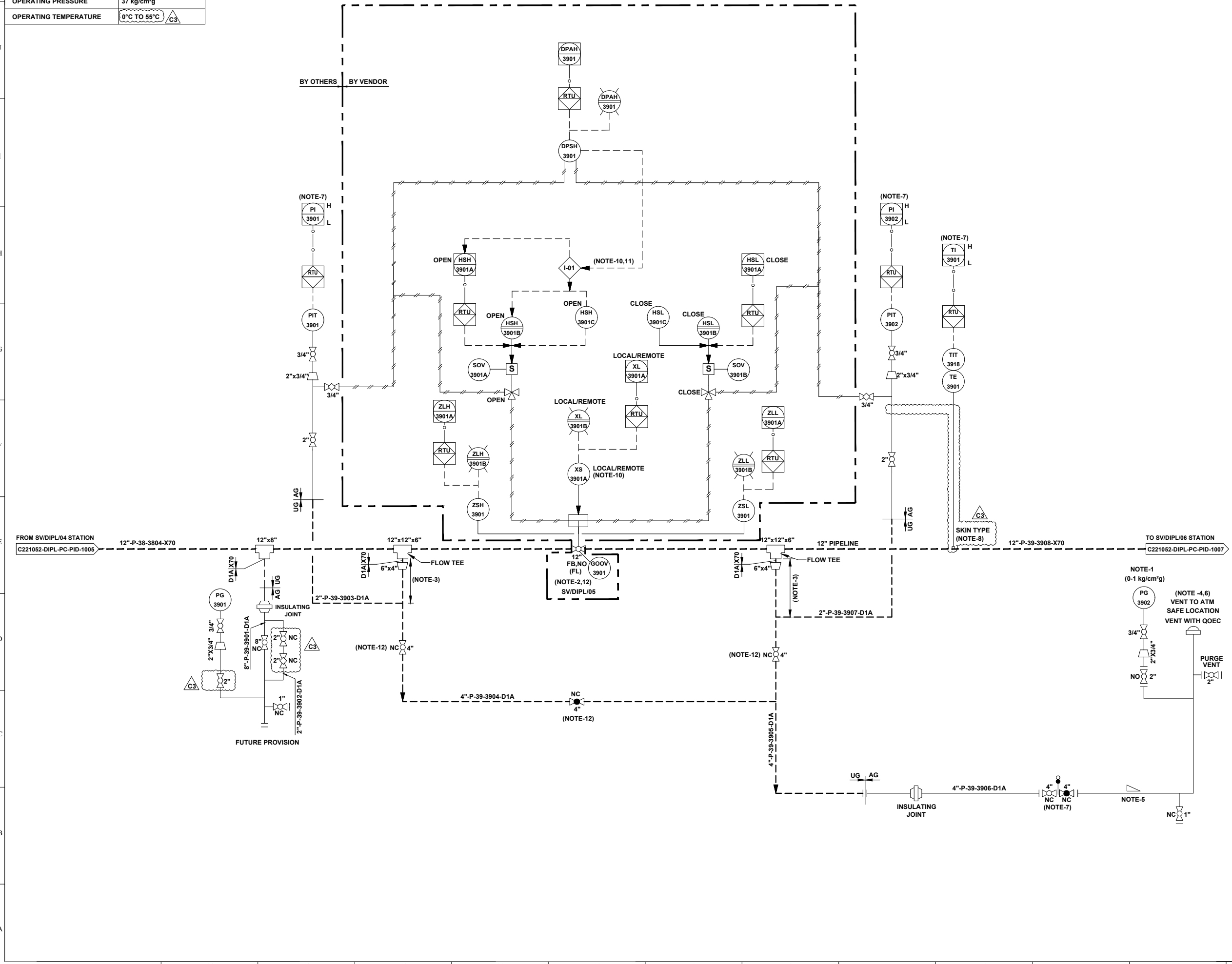
SV STATION	
TAG NO	SV/DIPL/05
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE

- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 3901/3902 & TIT-3901 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMO PAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE

- COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
COMMAND ACCEPTED FROM FIELD ONLY.
- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg / cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

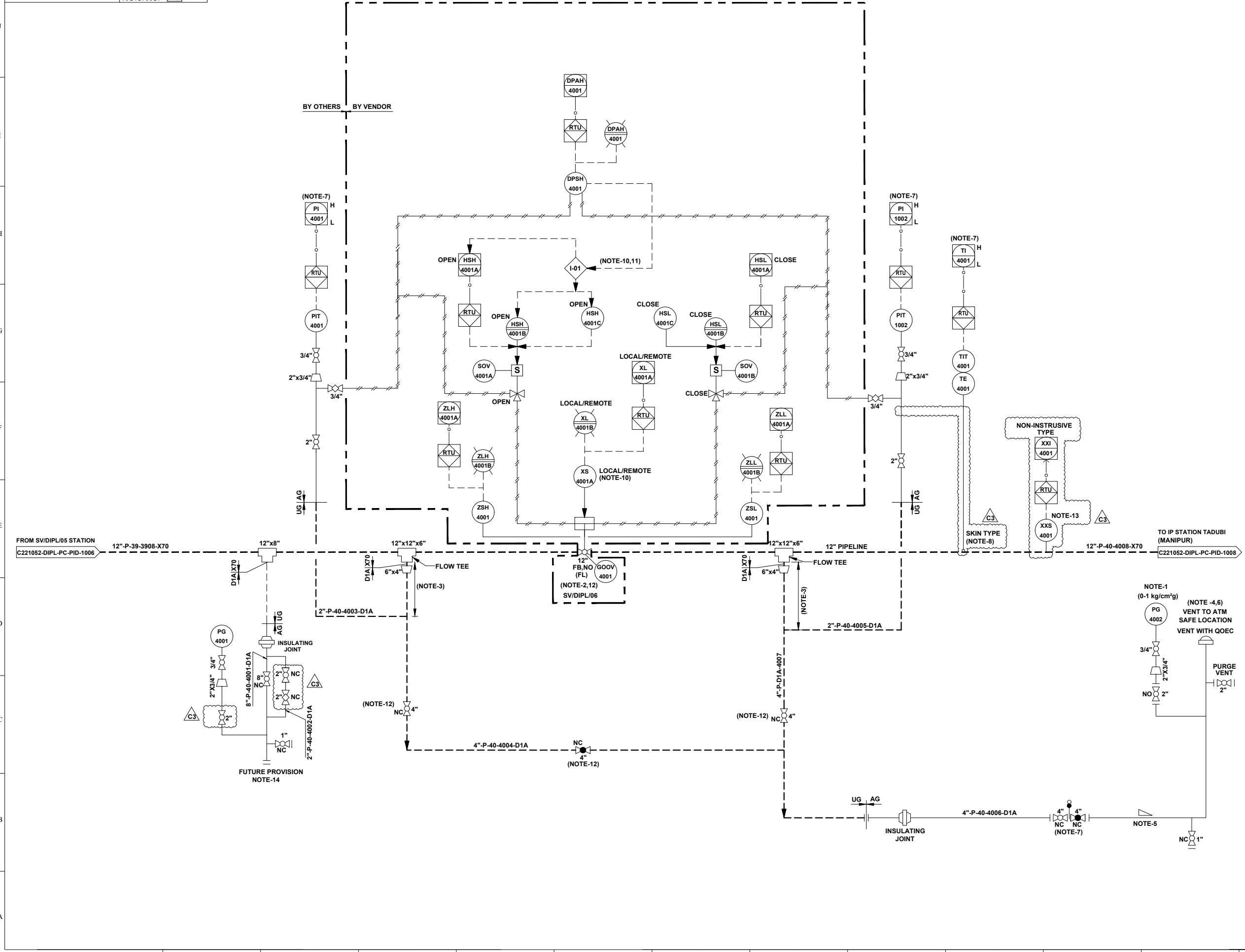
<b>CLIENT:</b> INDRADHANUSH GAS GRID LIMITED	
<b>PMC:</b> VCS QUALITY SERVICES PVT. LTD.	
<b>PROJECT:</b> NORTH EAST GAS GRID PHASE-III OF IGGL	
<b>TITLE:</b> P&ID FOR SV/DIPL/05 STATION AT DIMAPUR - KOHIMA - IMPHAL PIPELINE	
<b>SCALE:</b> N.T.S	<b>TOTAL NO. OF SHTS:</b> 1 OF 1
<b>SIZE:</b> A1	<b>JOB NO.:</b> C221052
<b>DRAWING NUMBER:</b> 404 of 411	<b>REV.:</b> C3

SV STATION	
TAG NO	SV/DIPL/06
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C <span style="border: 1px solid black; padding: 2px;">C3</span>

UNIT NO. 40

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 4001/4002 & TIT-4001 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMO PAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
  - COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM. COMMAND ACCEPTED FROM FIELD ONLY.
  - THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg / cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

**CLIENT:** INDRADHANUSH GAS GRID LIMITED

**PMC:** VCS QUALITY SERVICES PVT. LTD.

**PROJECT:** NORTH EAST GAS GRID PHASE-III OF IGGL

**TITLE:** P&ID FOR SV/DIPL/06 STATION AT DIMAPUR - KOHIMA - IMPHAL PIPELINE

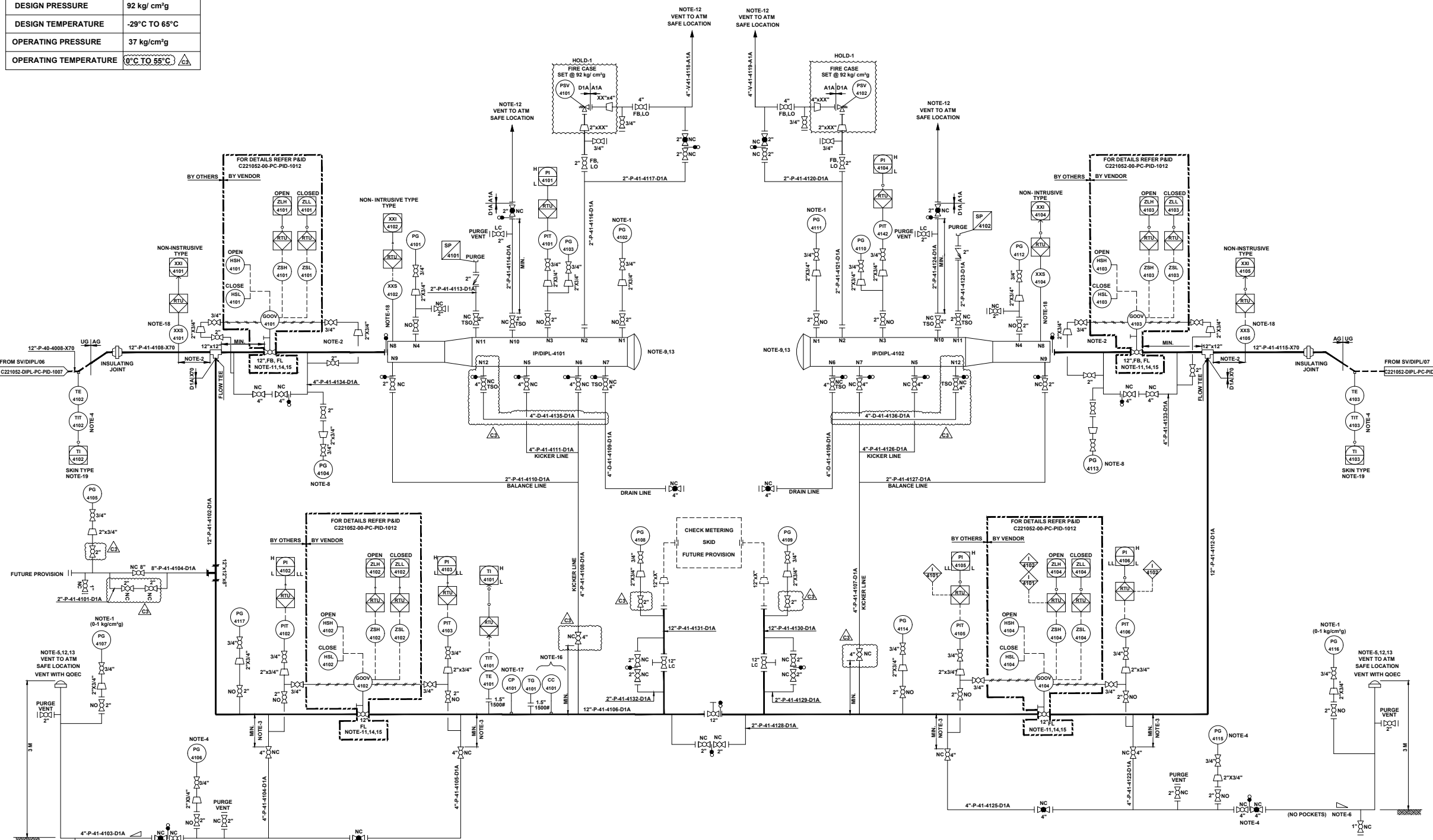
**SCALE:** N.T.S      **TOTAL NO. OF SHTS:** 1 OF 1

SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-DIPL-PC-PID-1007	C3



PIG LAUNCHER / PIG RECEIVER	
TAG NO.	IP/DIPL-4101 / 4102
SERVICE FLUID	NATURAL GAS
SIZE MAJOR / MINOR	18" / 12"
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29°C TO 65°C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

UNIT NO. 41



REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE

- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) PROVIDED WITH GAUGE SAVER.
  - DISTANCE SHALL BE AT LEAST EQUAL TO THE LENGTH OF THE LONGEST INTELLIGENT PIG.
  - BRANCH VALVE SHALL BE LOCATED AT MINIMUM DISTANCE.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PG-4106, PG-4115 & TIT-4102 / 4103 CAN BE READ DURING VENTING.
  - VENT SHALL BE WITH QOEC.
  - ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF PIPE IF ANY FOR LOW POINT DRAIN CONNECTION.
  - JUMPERS SHALL BE PROVIDED ACROSS ALL FLANGES.
  - PG-4104 & 4113 SHALL HAVE A RANGE OF (0-5 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER AND LEAST COUNT OF 0.1 kg/cm<sup>2</sup>g.
  - PROVISION OF A TROLLEY WITH PUSH ROD & PULLING LINE SHALL BE CONSIDERED TO ASSIST LOADING OR REMOVAL OF PIGS FROM THE SCRAPPER TRAP.
  - GAS DETECTORS TO BE PROVIDED IN DOWN WIND DIRECTION NEAR FLOW METERS, PIG BARRELS TO MONITOR LEAKAGE FROM FAILURE PRONE EQUIPMENTS PARTS, ACCESSORIES, VALVE & PIPES.
  - VALVE POSITION SHALL BE FAIL LAST.
  - ALL VENTS SHALL BE PROVIDED MIN. 3M HIGH FROM NEAREST HIGHEST OPERATING PLATFORM OR NEARBY STRUCTURE WITHIN 15M WHICHEVER IS HIGHER. NON SPARKING MATERIAL (BRASS) SHALL BE USED FOR FLAPPER TYPE VENT CONNECTION.
  - QUICK OPENING END CLOSURE TYPE DOOR CANNOT BE OPENED UNLESS PIG BARREL AND CONNECTED PIPING IS FULLY DEPRESSURIZE.
  - NECESSARY I/O'S & SIGNAL FOR INTERFACE WITH SCADA SHALL BE DEVELOPED SEPARATELY.
  - ACTUATOR DETAILS OF GOV CONTROL LOGIC SHALL BE AS PER P&ID.
  - "CC" SHALL BE OF WEIGHT LOSS TYPE.
  - ONLINE RETRIEVAL TYPE CORROSION MONITORING COUPON AND CORROSION PROBE SHALL BE PROVIDED FURTHER WHEREVER SCADA SYSTEM ARE AVAILABLE. THIS SYSTEM SHALL BE ONLINE SCADA COMPATIBLE OTHERWISE DATA SHALL BE COLLECTED BY OFFLINE DATA LOGGER.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.
  - THERMO PAD SHALL BE WELDED TYPE.

- HOLDS:-**
- PSVS INLET & OUTLET SIZE ARE UNDER HOLD. SHALL BE FINALISED POST RECEIPT OF VENDOR DATA.
- INTER LOCK :-**
- VALVE GOOV-4104 SHALL CLOSE ON LOW LOW PRESSURE OF THE PIPELINE AT STATION INLET.
  - VALVE GOOV-4104 SHALL CLOSE ON LOW LOW PRESSURE OF THE PIPELINE AT STATION OUTLET.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

CLIENT: **INDRADHANUSH GAS GRID LIMITED**

PMC: **VCS QUALITY SERVICES PVT. LTD.**

PROJECT: **NORTH EAST GAS GRID PHASE-III OF IGL**

TITLE: **P&ID FOR IP STATION AT TADUBI (MANIPUR)**

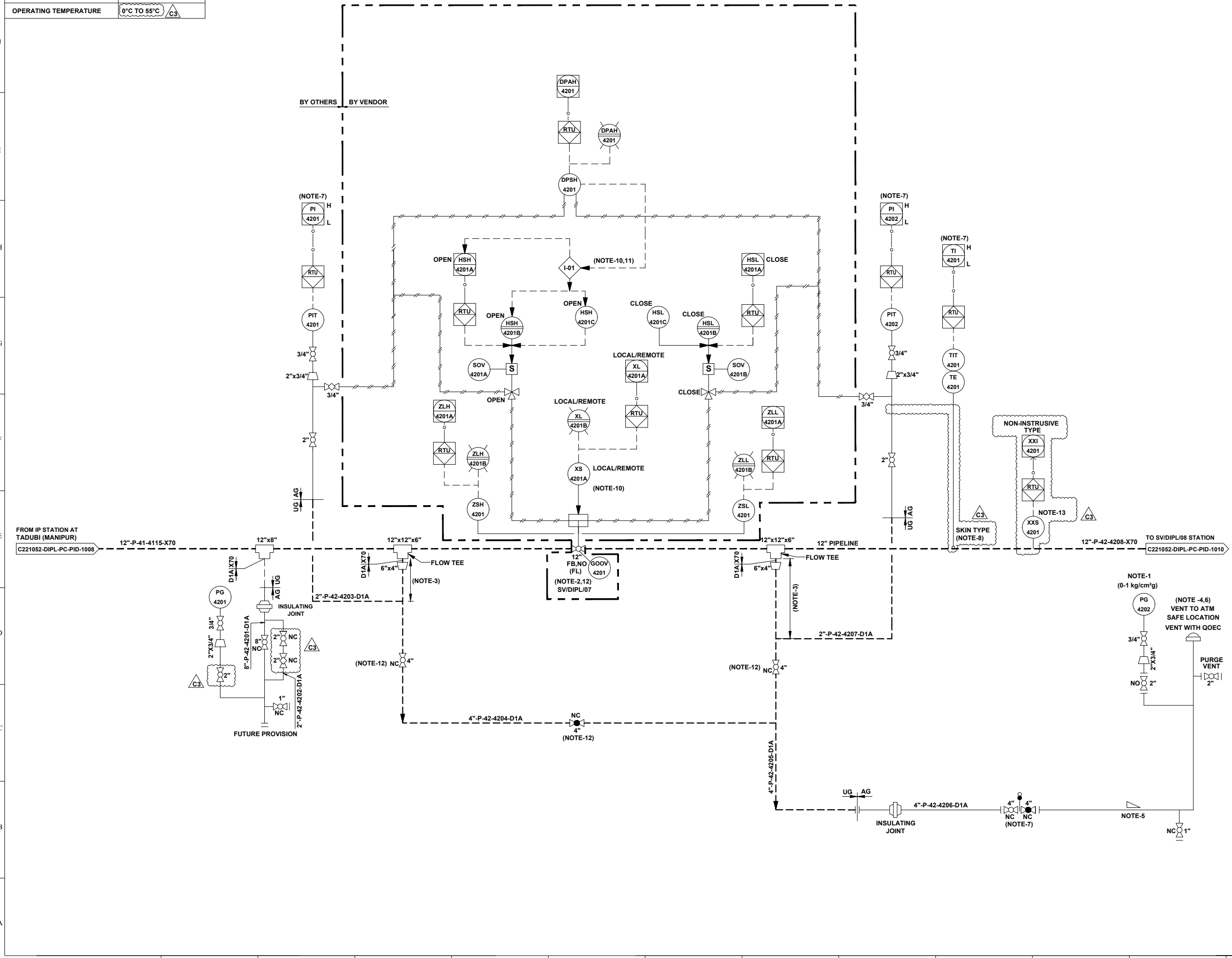
SCALE:	N. T. S	TOTAL NO. OF SHTS:	1 OF 1
SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-DIPL-PC-PID-1008	C3

UNIT NO. 42

SV STATION	
TAG NO	SV/DIPL/07
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 4201/4202 & TIT-4201 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMO PAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
  - COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
COMMAND ACCEPTED FROM FIELD ONLY.
  - THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/ cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

**CLIENT:**  
 **INDRADHANUSH GAS GRID LIMITED**

**PMC:**  
 **VCS QUALITY SERVICES PVT. LTD.**

**PROJECT:**  
**NORTH EAST GAS GRID PHASE-III OF IGGL**

**TITLE:**  
**P&ID FOR SV/DIPL/07 STATION AT DIMAPUR - KOHIMA - IMPHAL PIPELINE**

**SCALE:** N.T.S      **TOTAL NO. OF SHTS:** 1 OF 1

SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-DIPL-PC-PID-1009	C3

SV STATION	
TAG NO	SV/DIPL/08
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

UNIT NO. 43

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

**GENERAL NOTES:-**

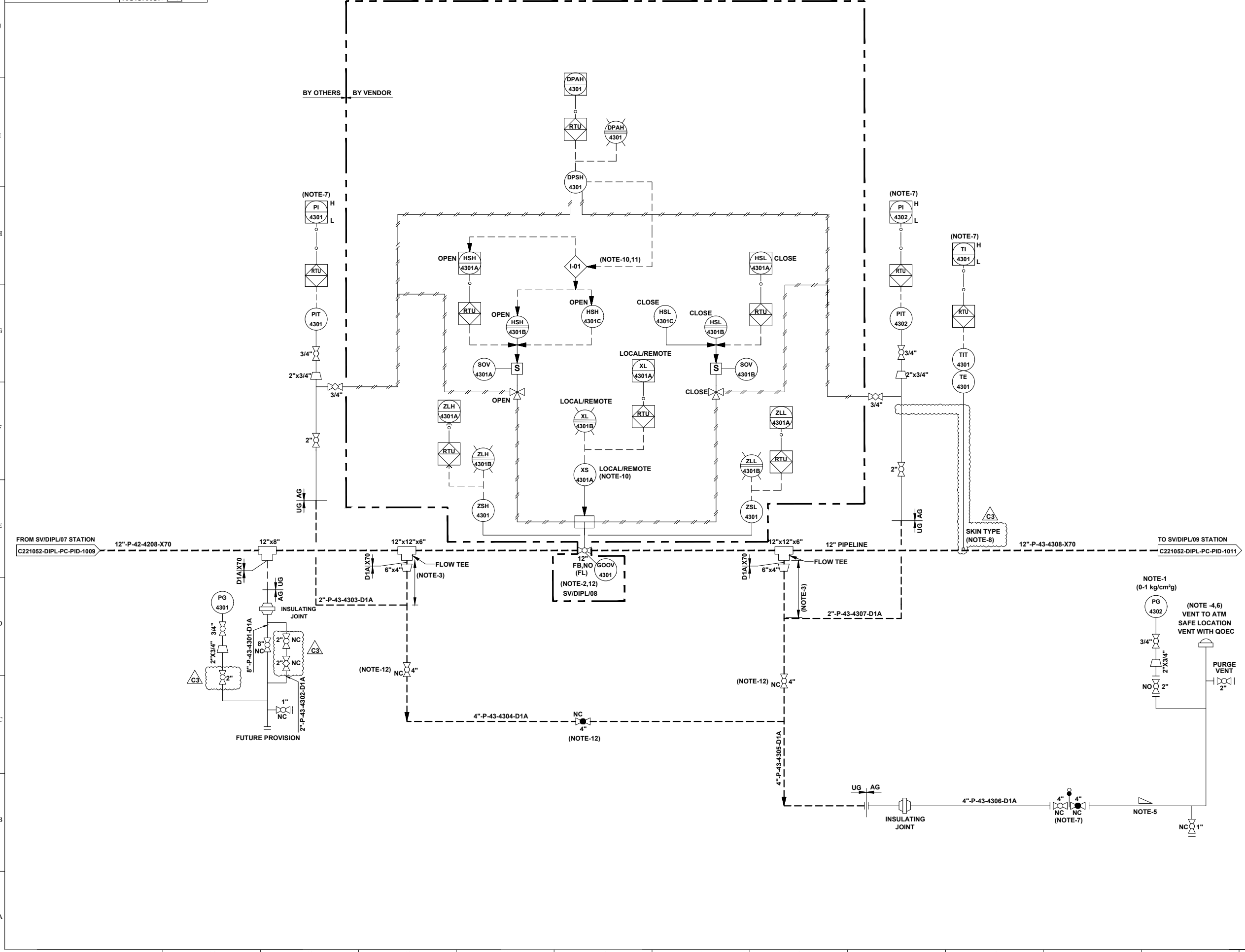
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
- ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
- ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE

**NOTES :-**

- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
- VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
- MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
- VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
- LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
- VENT SHALL BE WITH QOEC.
- DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 4301/4302 & TIT-4301 ON TRANSMITTER CAN BE READ DURING VENTING.
- THERMO PAD SHALL BE WELDED TYPE.
- JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
- LOCAL / REMOTE

COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
COMMAND ACCEPTED FROM FIELD ONLY.

- THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg / cm<sup>2</sup>) ACROSS THE VALVE.
- BURIED VALVE WITH STEM EXTENSION.



VCS QUALITY SERVICES PVT. LTD.

REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	10.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

CLIENT: **INDRADHANUSH GAS GRID LIMITED**

PMC: **VCS QUALITY SERVICES PVT. LTD.**

PROJECT: **NORTH EAST GAS GRID PHASE-III OF IGGL**

TITLE: **P&ID FOR SV/DIPL/08 STATION AT DIMAPUR - KOHIMA - IMPHAL PIPELINE**

SCALE: N.T.S	TOTAL NO. OF SHTS: 1 OF 1
SIZE: A1	JOB NO. C221052
DRAWING NUMBER: 408 of 411	REV. C3

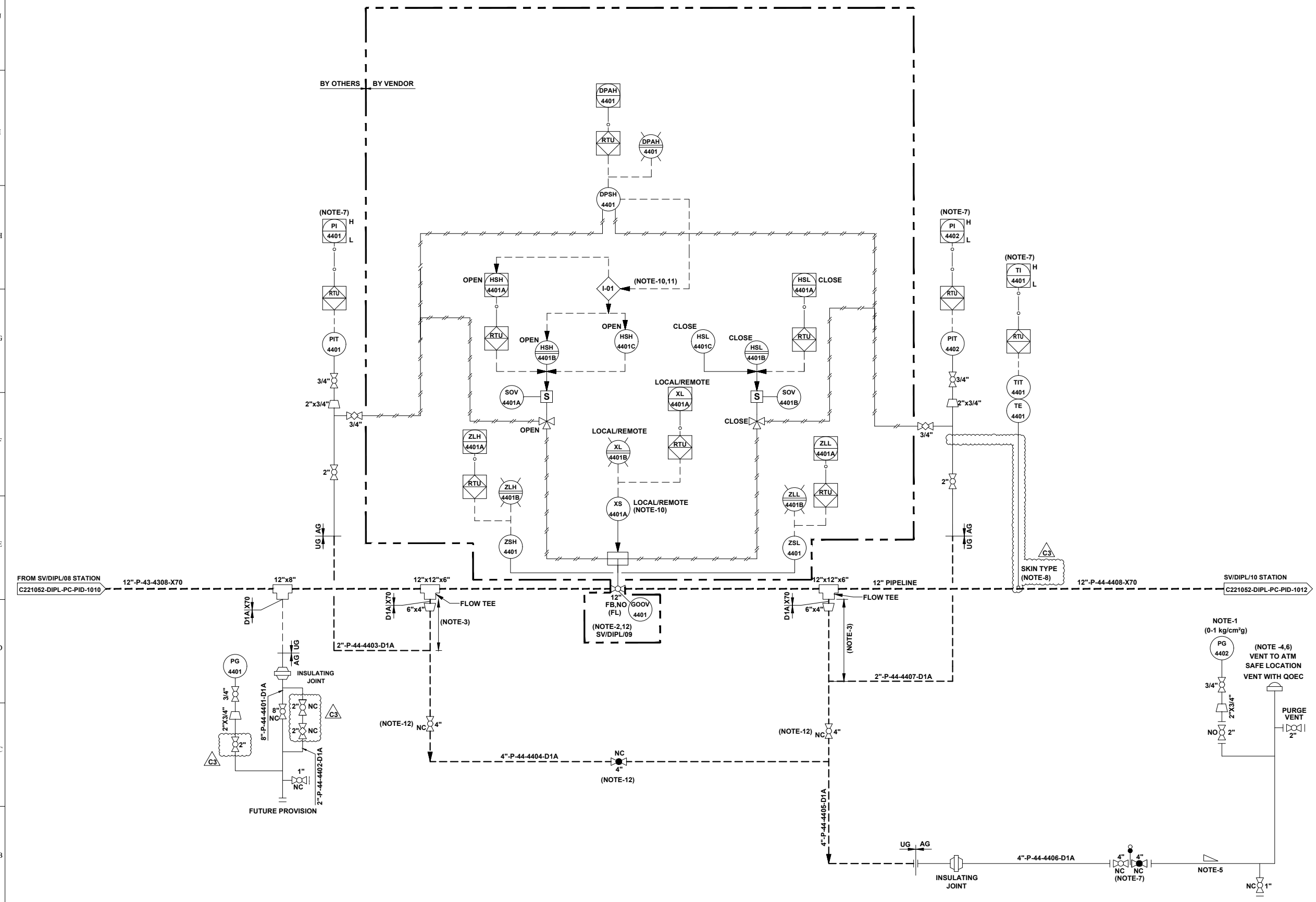
SV STATION	
TAG NO	SV/DIPL/09
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

UNIT NO. 44

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE

- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 4401/4402 & TIT-4401 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMO PAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
  - COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
COMMAND ACCEPTED FROM FIELD ONLY.
  - THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	10.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

**CLIENT:**  
**INDRADHANUSH GAS GRID LIMITED**

**PMC:**  
**VCS QUALITY SERVICES PVT. LTD.**

**PROJECT:**  
**NORTH EAST GAS GRID PHASE-III OF IGGL**

**TITLE:**  
**P&ID FOR SV/DIPL/09 STATION AT DIMAPUR - KOHIMA - IMPHAL PIPELINE**

**SCALE:** N.T.S      **TOTAL NO. OF SHTS:** 1 OF 1

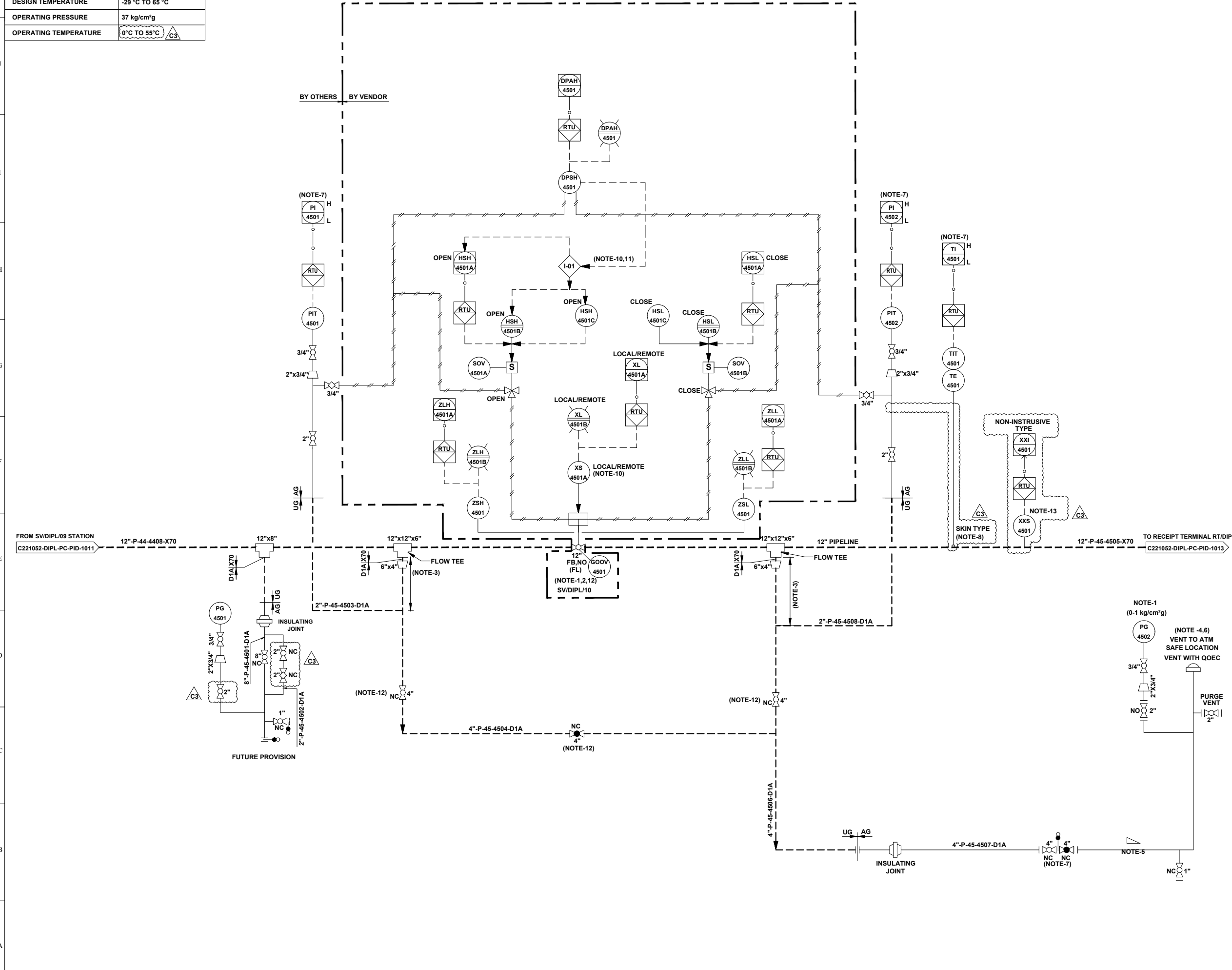
SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-DIPL-PC-PID-1011	C3

SV STATION	
TAG NO	SV/DIPL/10
SERVICE FLUID	NATURAL GAS
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29 °C TO 65 °C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

UNIT NO. 45

REFERENCE DRAWINGS	
DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE
- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER.
  - VALVE SHALL BE FAIL TO STAY FAIL LAST TYPE.
  - MINIMUM DISTANCE SHOULD BE EITHER 1.5D OR 1 METER, WHICHEVER IS HIGHER.
  - VENT SHALL BE LOCATED AT SAFE DISTANCE (MIN. HEIGHT OF 3.0M ABOVE THE HEIGHT WORKING PLATFORM FALLING WITHIN 15.0M RADIUS VENT) AS PER PNGRB GUIDELINES.
  - LOW POINT DRAIN SHALL BE PROVIDED ON DEPRESSURIZATION LINE AT MINIMUM DISTANCE FROM RISER PIPE OF VENT. ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF THE PIPE FOR LOW POINT DRAIN CONNECTION.
  - VENT SHALL BE WITH QOEC.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PIT 4501/4502 & TIT-4501 ON TRANSMITTER CAN BE READ DURING VENTING.
  - THERMO PAD SHALL BE WELDED TYPE.
  - JUMPER SHALL BE PROVIDED ACROSS ALL FLANGES.
  - LOCAL / REMOTE
  - COMMAND ACCEPTED FROM SCADA / PANEL IN LOCAL / MAIN CONTROL ROOM.  
COMMAND ACCEPTED FROM FIELD ONLY.
  - THIS INTERLOCK IS PROVIDED TO INHIBIT THE OPENING OF VALVE FROM REMOTE AS WELL AS LOCAL IN CASE OF HIGH DIFFERENTIAL PRESSURE (> 3.0 kg/cm<sup>2</sup>) ACROSS THE VALVE.
  - BURIED VALVE WITH STEM EXTENSION.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	10.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	04.05.22	ISSUED FOR IDC	HS	AD	SKP

CLIENT: **INDRADHANUSH GAS GRID LIMITED**

PMC: **VCS QUALITY SERVICES PVT. LTD.**

PROJECT: **NORTH EAST GAS GRID PHASE-III OF IGGL**

TITLE: **P&ID FOR SV/DIPL/10 STATION AT DIMAPUR - KOHIMA - IMPHAL PIPELINE**

SCALE:	N.T.S	TOTAL NO. OF SHTS:	1 OF 1
SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-DIPL-PC-PID-1012	C3

PIG LAUNCHER	
TAG NO.	RT/DIPL-4601
SERVICE FLUID	NATURAL GAS
SIZE MAJOR / MINOR	18" / 12"
DESIGN PRESSURE	92 kg/cm <sup>2</sup> g
DESIGN TEMPERATURE	-29°C TO 65°C
OPERATING PRESSURE	37 kg/cm <sup>2</sup> g
OPERATING TEMPERATURE	0°C TO 55°C

UNIT NO. 46

REFERENCE DRAWINGS

DRAWING TITLE	DRAWING NUMBER
P&ID LEGENDS	C221052-00-PC-LGD-1001 TO 1005

- GENERAL NOTES:-**
- ALL LINE NUMBERING AND EQUIPMENT TAG NUMBERING SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL INSTRUMENT TAG NUMBER SHALL BE PRE-FIXED WITH PROJECT CODE & AREA CODE "C221052-DIPL".
  - ALL BALL VALVE IN PIPELINE EXCEPT IN MAIN LINE (PIGGABLE) SHALL BE REDUCED BORE TYPE

- NOTES :-**
- LOW RANGE PRESSURE GAUGE (0-1 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER
  - DISTANCE SHALL BE AT LEAST EQUAL TO THE LENGTH OF THE LONGEST INTELLIGENT PIG.
  - BRANCH VALVE SHALL BE LOCATED AT MINIMUM DISTANCE.
  - DEPRESSURIZATION VALVE SHALL BE LOCATED IN SUCH A WAY THAT PG-3405 AND TIT-4602 CAN BE READ DURING VENTING.
  - VENT SHALL BE WITH QOEC.
  - ADEQUATE SLOPE TO BE MAINTAINED IN HORIZONTAL SECTION OF PIPE IF ANY FOR LOW POINT DRAIN CONNECTION.
  - JUMPERS SHALL BE PROVIDED ACROSS ALL FLANGES.
  - PG-4603 SHALL HAVE A RANGE OF (0-5 kg/cm<sup>2</sup>g) SHALL BE PROVIDED WITH GAUGE SAVER AND LEAST COUNT OF 0.1 kg/cm<sup>2</sup>g.
  - PROVISION OF A TROLLEY WITH PUSH ROD & PULLING LINE SHALL BE CONSIDERED TO ASSIST LOADING OR REMOVAL OF PIGS FROM THE SCRAPPER TRAP.
  - GAS DETECTORS TO BE PROVIDED IN DOWN WIND DIRECTION NEAR PIG BARRELS TO MONITOR LEAKAGE FROM FAILURE PRONE EQUIPMENTS PARTS, ACCESSORIES, VALVE & PIPES.
  - VALVE POSITION SHALL BE FAIL LAST.
  - ALL VENTS SHALL BE PROVIDED MIN. 3M HIGH FROM NEAREST HIGHEST OPERATING PLATFORM OR NEARBY STRUCTURE WITHIN 15M WHICHEVER IS HIGHER. NON SPARKING MATERIAL (BRASS) SHALL BE USED FOR FLAPPER TYPE VENT CONNECTION.
  - QUICK OPENING END CLOSURE TYPE DOOR CANNOT BE OPENED UNLESS PIG BARREL AND CONNECTED PIPING IS FULLY DEPRESSURIZE.
  - NECESSARY I/O's & SIGNAL FOR INTERFACE WITH SCADA SHALL BE DEVELOPED SEPARATELY.
  - ACTUATOR DETAILS OF GOOV CONTROL LOGIC SHALL BE AS PER P&ID.
  - 'CC' SHALL BE OF WEIGHT LOSS TYPE.
  - ONLINE RETRIEVAL TYPE CORROSION MONITORING COUPON AND CORROSION PROBE SHALL BE PROVIDED FURTHER WHEREVER SCADA SYSTEM ARE AVAILABLE, THIS SYSTEM SHALL BE ONLINE SCADA COMPATIBLE OTHERWISE DATA SHALL BE COLLECTED BY OFFLINE DATA LOGGER.
  - PIG SIGNALER CONNECTION SHALL BE CLAMP ON TYPES.
  - THERMO PAD SHALL BE WELDED TYPE.

- HOLDS:-**
- PSV's INLET & OUTLET SIZE ARE UNDER HOLD. SHALL BE FINALISED POST RECEIPT OF VENDOR DATA.



REV.	DATE	DESCRIPTION	PREP.	CHKD.	APPD.
C3	24.06.22	ISSUED FOR HAZOP	HS	AD	AKP
C2	23.05.22	ISSUED FOR APPROVAL	HS	AD	SKP
C1	13.05.22	ISSUED FOR CLIENT REVIEW	HS	AD	SKP
B1	30.04.22	ISSUED FOR IDC	HS	AD	SKP

CLIENT: **INDRADHANUSH GAS GRID LIMITED**

PMC: **VCS QUALITY SERVICES PVT. LTD.**

PROJECT: **NORTH EAST GAS GRID PHASE-III OF IGGL**

TITLE: **P&ID FOR RECEIPT TERMINAL RT/DIPL AT IMPHAL**

SCALE:	N. T. S	TOTAL NO. OF SHTS:	1 OF 1
SIZE	JOB NO.	DRAWING NUMBER	REV.
A1	C221052	C221052-DIPL-PC-PID-1013	C3

