

**NOTES:**

1. THERE ARE TWO OPTIONS FOR THE PRESSURE REGULATOR LOCATION IN THE WELDING GAS SUPPLY SYSTEM DESIGNED FOR 75/25 ARGON/CO2. THE FIRST OPTION INVOLVES PLACING A MAIN PRESSURE REGULATOR AT THE OUTLET HEADER OF ALL CYLINDERS, AND THE SECOND OPTION ENTAILS USING AN INDIVIDUAL PRESSURE REGULATOR FOR EACH CYLINDER. THE VENDOR WILL FINALIZE THE LOCATION AND TYPE OF THE PRESSURE REGULATOR. IT IS RECOMMENDED TO USE A TWO-STAGE REGULATOR TO MAINTAIN A CONSTANT OUTLET PRESSURE AT THE SET PRESSURE.
2. VENDOR SHALL SUPPLY A FLOW GAUGE FOR EACH USER WITH THE POSSIBILITY OF ADJUSTMENT, WITH A RANGE OF 0 TO 50 LPM.
3. VENDOR SHALL FINALIZE THE USE OF TUBING OR HOSE INSIDE THE CYLINDER PACKAGE.
4. HOSE TO BE COILED FOR TRANSIT OFFSHORE. HOSE TO BE UNCOILED AND LOWERED WHEN OFFSHORE WITH QUICK CONNECT ARRANGEMENT.
5. A PRESSURE GAUGE IS REQUIRED BOTH UPSTREAM AND DOWNSTREAM OF THE PRESSURE REGULATOR.
6. VENDOR SHALL SUPPLY A PRESSURE ALARM SYSTEM TO INFORM AN OPERATOR THAT BOTTLES ARE EMPTY AND REQUIRE CHANGE OUT.
7. THESE MANIFOLDS ARE CONSIDERED SPARES AND ARE TO BE USED IF THERE IS A PROBLEM WITH ONE OF THE MAIN MANIFOLDS. THE SPARE MANIFOLD SHALL BE SUITABLE FOR MOVEMENT WITHIN A 10-METER RADIUS OF THE NEAREST LEGS.
8. ONE REGULATOR IS TO BE USED PER TWO QUAD PACKS. ONE REGULATOR SHALL BE SET AT 110 PSIG (MAIN REGULATOR) AND THE OTHER SHALL BE SET AT 100 PSIG (SPARE). TO ENSURE GAS IS NOT DRAWN FROM THE FULL QUAD PACKS AFTER CHANGE OUT, THE OPERATOR SHALL CHANGE THE SET POINT OF THE SPARE REGULATOR FROM 100 PSIG TO 110 PSIG. THE VENDOR SHALL SUPPLY REGULATORS THAT ARE CAPABLE OF PRESSURE ADJUSTMENT.

02	WH-P-00W-B-PI-00002-002 REV C7	P&ID SYMBOL LEGEND
01	WH-P-00W-B-PI-00002-001 REV C8	P&ID SYMBOL LEGEND
NO.	DRAWING NUMBER	DRAWING TITLE

REFERENCE DRAWING						

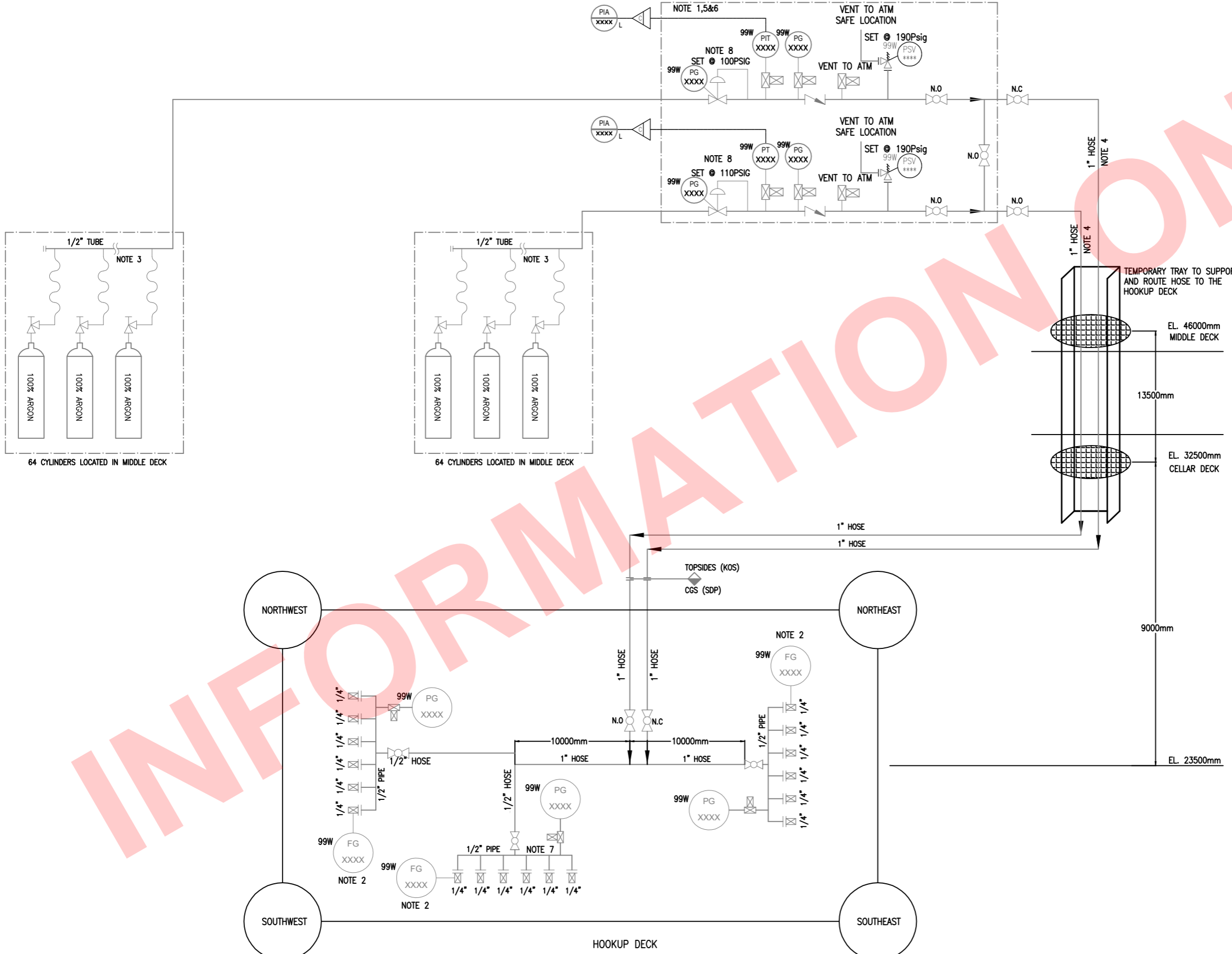
B1	04/01/2024	BA	MM	SS	DF	ISSUED FOR REVIEW
REV	DATE	ORIG.	CHKR.	ENG.	APPR.	DESCRIPTION

**AkerSolutions**  
 SUITE 511,  
 215 WATER STREET  
 ST. JOHN'S, NL,  
 CANADA, A1C 6C9

**cenovus**  
 ENERGY

PROJECT: 90010 MOC No: 8401670353  
 TITLE: PROCESS PIPING & INSTRUMENTATION DIAGRAM FOR TOPSIDES HOOK-UP & OFFSHORE COMMISSIONING TEMPORARY WELDING GAS SUPPLY 75%AR/25%CO2

JOB No:	DRAWING No:	REV.:
H53	WH-C-99W-B-PI-00012-001	B1



- NOTES:
1. THERE ARE TWO OPTIONS FOR THE PRESSURE REGULATOR LOCATION IN THE WELDING GAS SUPPLY SYSTEM DESIGNED FOR 75/25 ARGON/CO2. THE FIRST OPTION INVOLVES PLACING A MAIN PRESSURE REGULATOR AT THE OUTLET HEADER OF ALL CYLINDERS, AND THE SECOND OPTION ENTAILS USING AN INDIVIDUAL PRESSURE REGULATOR FOR EACH CYLINDER. THE VENDOR WILL FINALIZE THE LOCATION AND TYPE OF THE PRESSURE REGULATOR. IT IS RECOMMENDED TO USE A TWO-STAGE REGULATOR TO MAINTAIN A CONSTANT OUTLET PRESSURE AT THE SET PRESSURE.
  2. VENDOR SHALL SUPPLY A FLOW GAUGE FOR EACH USER WITH THE POSSIBILITY OF ADJUSTMENT, WITH A RANGE OF 0 TO 50 LPM.
  3. VENDOR SHALL FINALIZE THE USE OF TUBING OR HOSE INSIDE THE CYLINDER PACKAGE.
  4. HOSE TO BE COILED FOR TRANSIT OFFSHORE. HOSE TO BE UNCOILED AND LOWERED WHEN OFFSHORE WITH QUICK CONNECT ARRANGEMENT.
  5. A PRESSURE GAUGE IS REQUIRED BOTH UPSTREAM AND DOWNSTREAM OF THE PRESSURE REGULATOR.
  6. VENDOR SHALL SUPPLY A PRESSURE ALARM SYSTEM TO INFORM AN OPERATOR THAT BOTTLES ARE EMPTY AND REQUIRE CHANGE OUT.
  7. THESE MANIFOLDS ARE CONSIDERED SPARES AND ARE TO BE USED IF THERE IS A PROBLEM WITH ONE OF THE MAIN MANIFOLDS. THE SPARE MANIFOLD SHALL BE SUITABLE FOR MOVEMENT WITHIN A 10-METER RADIUS OF THE NEAREST LEGS.
  8. ONE REGULATOR IS TO BE USED PER ONE QUAD PACK. ONE REGULATOR SHALL BE SET AT 110 PSIG (MAIN REGULATOR) AND THE OTHER SHALL BE SET AT 100 PSIG (SPARE). TO ENSURE GAS IS NOT DRAWN FROM THE FULL QUAD PACKS AFTER CHANGE OUT, THE OPERATOR SHALL CHANGE THE SET POINT OF THE SPARE REGULATOR FROM 100 PSIG TO 110 PSIG. THE VENDOR SHALL SUPPLY REGULATORS THAT ARE CAPABLE OF PRESSURE ADJUSTMENT.

02	WH-P-00W-B-PI-00002-002 REV C7	P&ID SYMBOL LEGEND
01	WH-P-00W-B-PI-00002-001 REV C8	P&ID SYMBOL LEGEND
NO.	DRAWING NUMBER	DRAWING TITLE

REFERENCE DRAWING					

B1	04/01/2024	BA	MM	SS	DF	ISSUED FOR REVIEW
REV	DATE	ORIG.	CHKR.	ENG.	APPR.	DESCRIPTION

**AkerSolutions™**  
 SUITE 511,  
 215 WATER STREET  
 ST. JOHN'S, NL,  
 CANADA, A1C 6C9

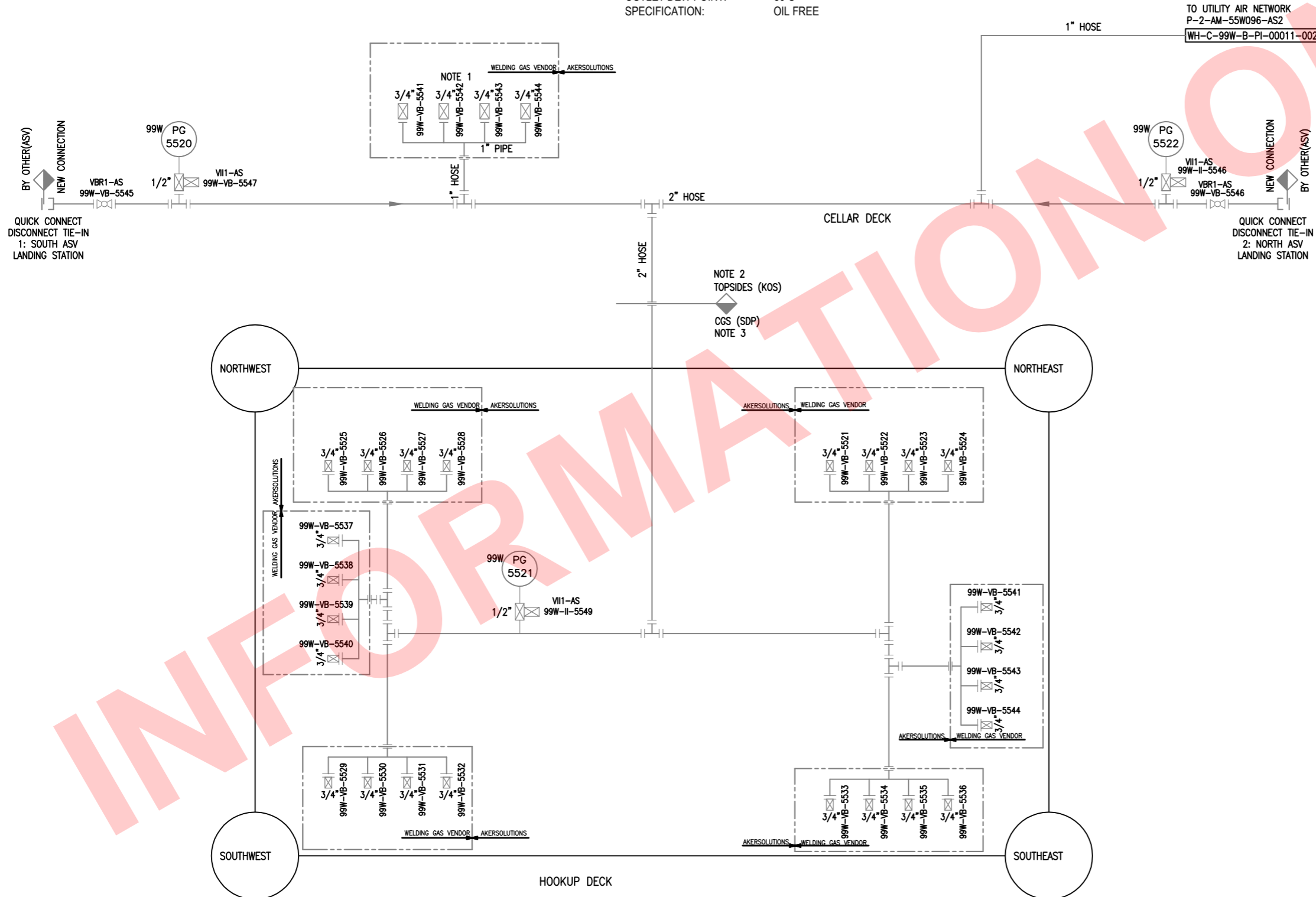
**cenovus ENERGY**

PROJECT: 90010 MOC No: 8401670353  
 TITLE: PROCESS PIPING & INSTRUMENTATION DIAGRAM FOR TOPSIDES HOOK-UP & OFFSHORE COMMISSIONING TEMPORARY WELDING GAS SUPPLY 100% ARGON

JOB No:	DRAWING No:	REV.:
H53	WH-C-99W-B-PI-00012-002	B1

### TEMPORARY COMPRESSED AIR SUPPLY FROM ASV

DESIGN FLOW RATE: 1200 Sm<sup>3</sup>/hr  
 DESIGN PRESSURE: 1400 kPag  
 DESIGN TEMPERATURE: 60°C  
 OPERATING PRESSURE: 800 Kpag  
 OPERATING TEMPERATURE: 20°C  
 OUTLET DEW POINT: -30°C  
 SPECIFICATION: OIL FREE



**NOTES:**

1. COMPRESSED AIR SUPPLY FOR COATING WORK COMPLETION ON CELLAR DECK.
2. TOPSIDES SCOPE TO BE COMPLETED AT INGLESIDE SITE.
3. CGS SCOPE TO BE COMPLETED AT ARGENTIA SITE.

**HOLDS:**

1. COMMISSIONING REQUIREMENTS TO BE CONFIRMED.

03	WH-G-99W-P-SP-00001-001 REV D7	SPECIFICATION - PIPING AND VALVE MATERIALS
02	WH-P-00W-B-PI-00002-002 REV C7	P&ID SYMBOL LEGEND
01	WH-P-00W-B-PI-00002-001 REV C8	P&ID SYMBOL LEGEND
NO.	DRAWING NUMBER	DRAWING TITLE

REFERENCE DRAWING						
NO.	DATE	ORIG.	CHKR.	ENG.	APPR.	DESCRIPTION
B1	04/01/2024	BA	MM	SS	DF	ISSUED FOR REVIEW

REV	DATE	ORIG.	CHKR.	ENG.	APPR.	DESCRIPTION
	DD/MM/YYYY					

**AkerSolutions**  
 SUITE 511,  
 215 WATER STREET  
 ST. JOHN'S, NL,  
 CANADA, A1C 6C9

**cenovus**  
 ENERGY

PROJECT: 90010 MOC No: 8401670353

TITLE: PROCESS PIPING & INSTRUMENTATION DIAGRAM FOR TOPSIDES HOOK-UP & OFFSHORE COMMISSIONING TEMPORARY COMPRESSED AIR SUPPLY

JOB No:	DRAWING No:	REV.:
H53	WH-C-99W-B-PI-00011-001	B1