

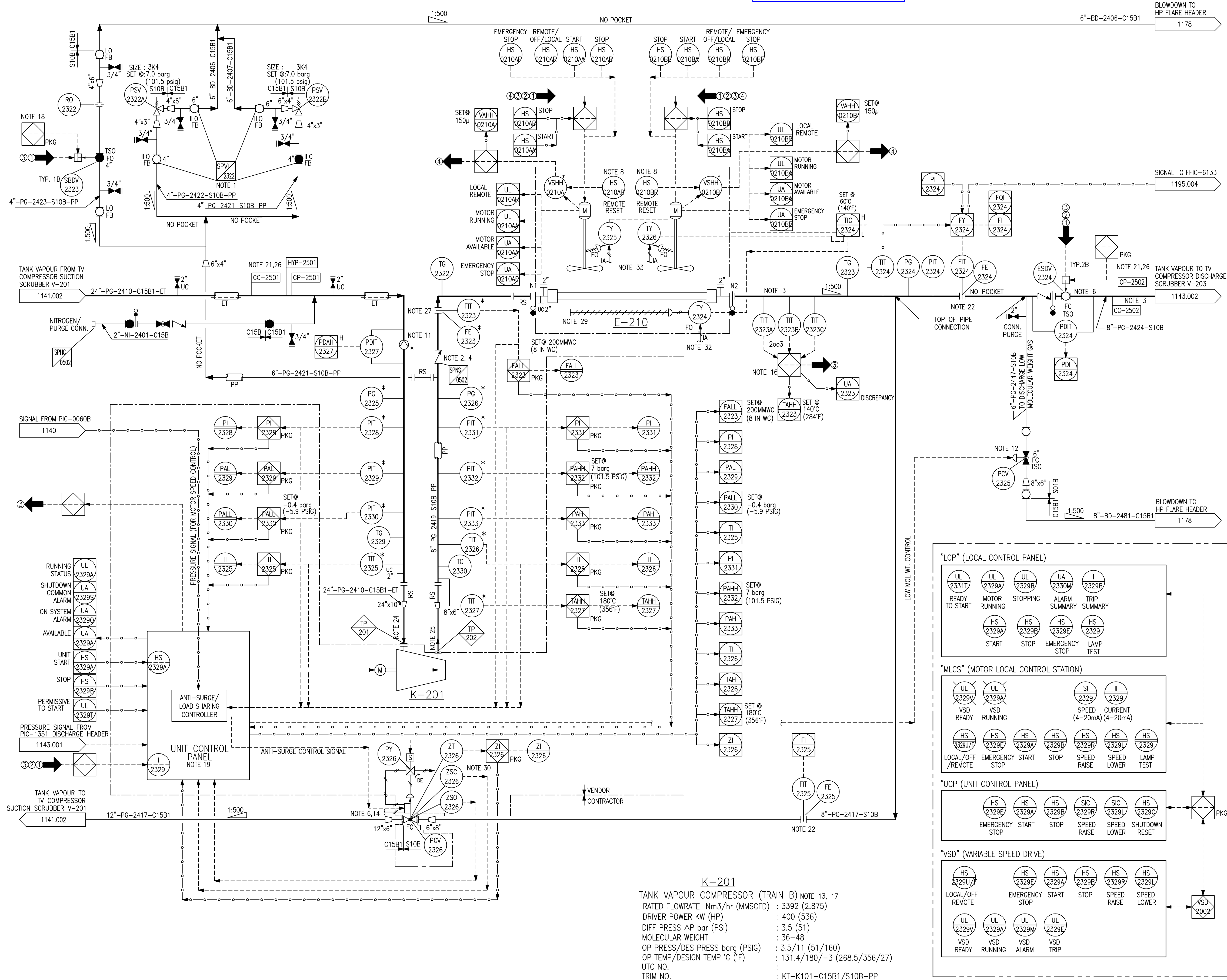
E-210

TANK VAPOUR COMPRESSOR DISCHARGE COOLER (TRAIN B) NOTE 20

DUTY MMkcal (MMBTU/hr) : 0.35 (1.39)
 OP PRESS / DES PRESS barg (PSIG) : 3.53/7 (51.2/101.5)
 OP TEMP INLET/OUTLET °C (°F) : 132.4/60 (270.3/140)
 DESIGN TEMP °C (°F) : -3/200 (27/392)
 UTC NO. :
 TRIM NO. : ET- E-210-S10B-PP

AS-BUILT	
KOC APPROVAL	
NAME / KOC No:	
DESIGNATION :	
GROUP / TEAM :	
SIGNATURE :	
DATE :	

AS-BUILT	
LARSEN & TOUBRO LIMITED	
NAME :	VAIBHAV VERMA
DESIGNATION :	AGM
SIGNATURE :	
DATE :	17-Oct-2018
DEPT/ DIVISION :	ENGINEERING



K-201
 TANK VAPOUR COMPRESSOR (TRAIN B) NOTE 13, 17
 RATED FLOWRATE Nm³/hr (MMSCFD) : 3392 (2.875)
 DRIVER POWER KW (HP) : 400 (536)
 DIFF PRESS ΔP bar (PSI) : 3.5 (51)
 MOLECULAR WEIGHT : 36-48
 OP PRESS/DES PRESS barg (PSIG) : 3.5/11 (51/160)
 OP TEMP/DESIGN TEMP °C (°F) : 131.4/180/-3 (268.5/356/27)
 UTC NO. :
 TRIM NO. : KT-K101-C15B1/S10B-PP

GENERAL NOTES:

- FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & .002.
 - ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PREFIXED BY 530-.
 - ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PREFIXED BY 030-.
 - FOR TYPICAL INSTRUMENT CONNECTION SBDV, XV, MOV AND ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001, .002, .003, .004, .006 & .007.
 - FOR MISCELLANEOUS PIPING TYPICAL VALVING, DRAINAGE AND GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS STRAINERS & CONTROL VALVES SEE DRAWING 50489-530-020-PID-1108.001 TO 1108.010.
 - DRAWING NUMBERS SHOWN IN P&ID CONTINUATION BOXES ARE ABBREVIATED SHOWING DRAWING SEQUENTIAL NUMBERS ONLY. THE FULL FORM OF THE DRAWING NUMBER IS 50489-530-020-PID-XXXX.SHT. NO.
 - FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1018.001.
 - DETAIL NUMBERING FOR CI, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.
 - PAINTING & COATING ARE IN ACCORDANCE WITH KOC-P-001.
 - LOW POINT DRAIN & HIGH POINT VENT ARE INDICATED IN P&ID.
 - FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHL-1009.
 - FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.
- NOTES:**
- RELIEF VALVE INLET AND DISCHARGE VALVES ARE KEY INTERLOCKED SUCH THAT ONE RELIEF VALVE IS ALWAYS ON LINE AT ANY TIME.
 - CHECK VALVE IS MINIMUM DISTANCE FROM COMPRESSOR DISCHARGE NOZZLE.
 - SUPPORT LINE FOR 2-PHASE FLOW DOWNSTREAM OF E-210.
 - CHECK VALVE IS NON-SLAM TYPE.
 - DELETED.
 - COMPRESSOR SUCTION/DISCHARGE ESDV'S & ANTI SURGE VALVE ARE OPENED BY STARTING SEQUENCE. ON COMPRESSOR TRIP, SUCTION & DISCHARGE ESDV'S ARE CLOSED.
 - DELETED.
 - REMOTE RESET IS PROVIDED AT GRADE.
 - * MARKED ITEM IS SUPPLIED BY VENDOR.
 - DELETED.
 - COMMISSIONING STRAINERS ARE PROVIDED.
 - IF COMPRESSOR DISCHARGE PRESSURE IN PIT-2331 IS LESS THAN 2.5 BARG FOR 30MINUTES EVEN WHEN THE COMPRESSOR IS OPERATING ABOVE 80% SPEED, THE UCP PLC WILL OPEN PCV-2325 (LOW MW CONTROL VALVE) IN 50% FOR 5 MINUTES TO PURGE LOW MW GAS TO FLARE WITH HIGH MW GAS (MW= 36-48) FROM TV GAS HEADER.
 - THE COMPRESSORS SHOULD BE CAPABLE OF RUNNING WITH OR WITHOUT LOAD SHARING MODE, VENDOR TO DESIGN THE CONTROL SYSTEM ACCORDINGLY.
 - THE ANTI-SURGE CONTROL TO BE DEVELOPED AND SUPPLIED BY VENDORS.
 - DELETED.
 - HIGH TEMPERATURE PROTECTION ON DOWNSTREAM EQUIPMENT.
 - 3 x 50% CENTRIFUGAL COMPRESSORS.
 - ON SHUTDOWN, COMPRESSORS SHOULD AUTO-DEPRESSURISE BY OPENING SBDV-2323.
 - VENDOR TO DECIDE ON COMPREHENSIVE CONTROL PHILOSOPHY FOR FLOW CONTROL AND MINIMUM DISCHARGE PRESSURE REQUIRED TO ROUTE THE COMPRESSED GAS TO THE EXPORT HEADER.
 - AIR COOLER SHALL BE FORCED DRAFT.
 - FOR CORROSION MONITORING STATIONS (CMS):-
 (a) CMS ARE INSTALLED AS PER KOC-MP-035.
 (b) PROPER ACCESS PIT OR PLATFORM ARE PROVIDED FOR RETRIEVAL OF COUPEN/PROBE.
 (c) MATERIAL FOR CMS ARE PROCURED FROM KOC APPROVED VENDOR LIST.
 (d) CMS ARE LOCATED IN BOTTOM 6 O'CLOCK POSITION.
 (e) TAG NUMBERING OF CMS IS AS PER APPENDIX-C OF KOC-MP-035.
 - MINIMUM STRAIGHT LENGTH REQUIRED FOR ORIFICE FLOW (FE-2324/2325) METER ARE 20 D UPSTREAM/5 D DOWNSTREAM.
 - REFERENCE P&ID:- 50489-530-020-07355-PID-V001, SHEET 2 OF 6.
 - MINIMUM STRAIGHT LENGTH OF PIPING REQUIRED UPSTREAM OF INLET = 3.5 D FOR COMPRESSOR SUCTION.
 - MINIMUM STRAIGHT LENGTH OF PIPING REQUIRED DOWNSTREAM OF DISCHARGE = 3 D FOR COMPRESSOR DISCHARGE.
 - ONE ADDITIONAL INTERNAL CORROSION MONITORING POINT SHALL BE INSTALLED AT THE TOP AT 12 O'CLOCK.
 - MINIMUM STRAIGHT LENGTH REQUIRED FOR ORIFICE FLOW (FE-2323) METER SHALL BE 15 D UPSTREAM/5 D DOWNSTREAM.
 - REFERENCE P&ID FOR DELUGE SYSTEM 50489-530-000-PID-1127.001 AND 50489-530-000-PID-1127.002.
 - DRAIN AND VENT VALVE WITH BLIND FLANGE PROVIDED FOR LOCATION OF DRAIN & VENT VALVE REFER 50489-530-041-07831-GAD-V001.
 - POSITION TRANSMITTER FOR ANTI-SURGE CONTROL VALVE PERCENTAGE FEEDBACK TO UCP.
 - FOR ALL ASC, LSC & MPC CONNECTION AND ALARM DETAILS REFER 50489-530-080-07355-SPC-V001
 - ON COMPRESSOR STOP TY-2324,2325 & 2326 WILL CLOSE & ON COMPRESSOR RUN, TY-2324 WILL OPEN.
 - AIR FLOW RATE SHALL BE REGULATED BY AUTOMATIC VARIABLE FAN PITCH CONTROL WITH ALARM OPTION.

REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
Z1	ISSUED FOR AS-BUILT	BAK/SSI	AKG	SRA	DER	17.10.18
Z0	ISSUED FOR AS-BUILT	BAK/SSI	AKG	SRA	DER	25.09.18
3	ISSUED FOR CONSTRUCTION	BAK/SSI	AKG	SRA	DER	20.12.16
2	RE-ISSUED FOR CONSTRUCTION	HSB/VSA	AKG	SRA	RAK	25.07.16
1	RE-ISSUED FOR CONSTRUCTION	HSB/VSA	AKG	SRA	RAK	13.06.16
0	ISSUED FOR CONSTRUCTION	PAK/VSA	AKG	SRA	RAK	06.05.16
D	ISSUED INCORPORATED CLIENT COMMENTS	HSB/VSA	AKG	SRA	RAK	12.03.16
C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	28.10.15
OC	ISSUED INCORPORATED CLIENT COMMENTS	JSI/VSA	AKG	SRA	RAK	30.05.15
B	ISSUED INCORPORATED CLIENT COMMENTS	JSI/VSA	AKG	SRA	RAK	17.02.15
A	ISSUED FOR APPROVAL	BAK/VSA	AKG	SRA	RAK	05.12.14

CONTRACTOR REVISION

			
KUWAIT OIL CO. K. S. C.		شركة نفط الكويت ش.م.ك.	
إسمى الشركة: شركة نفط الكويت A Subsidiary of Kuwait Petroleum Corporation		إسمى الشركة: شركة نفط الكويت A Subsidiary of Kuwait Petroleum Corporation	

CONTRACTOR DETAILS:-	
PROJECT TITLE:- NEW GATHERING CENTRE GC-30 IN NORTH KUWAIT	

DOCUMENT TITLE:-	
PIPING & INSTRUMENTATION DIAGRAM TANK VAPOUR COMPRESSOR (K-201) TRAIN B	
PROJECT NO.	DRAWING NO.
CONTRACTOR DRG. NO.	REV. KOC DRG. NO.
50498-530-020-PID-1142.006	Z1
SHEET NO. 6 OF 15	SHEET NO.
COMPANY DRG. NO.	REV.
EF1902-530-DCO-PID-0142.001	A2
SHEET NO.	