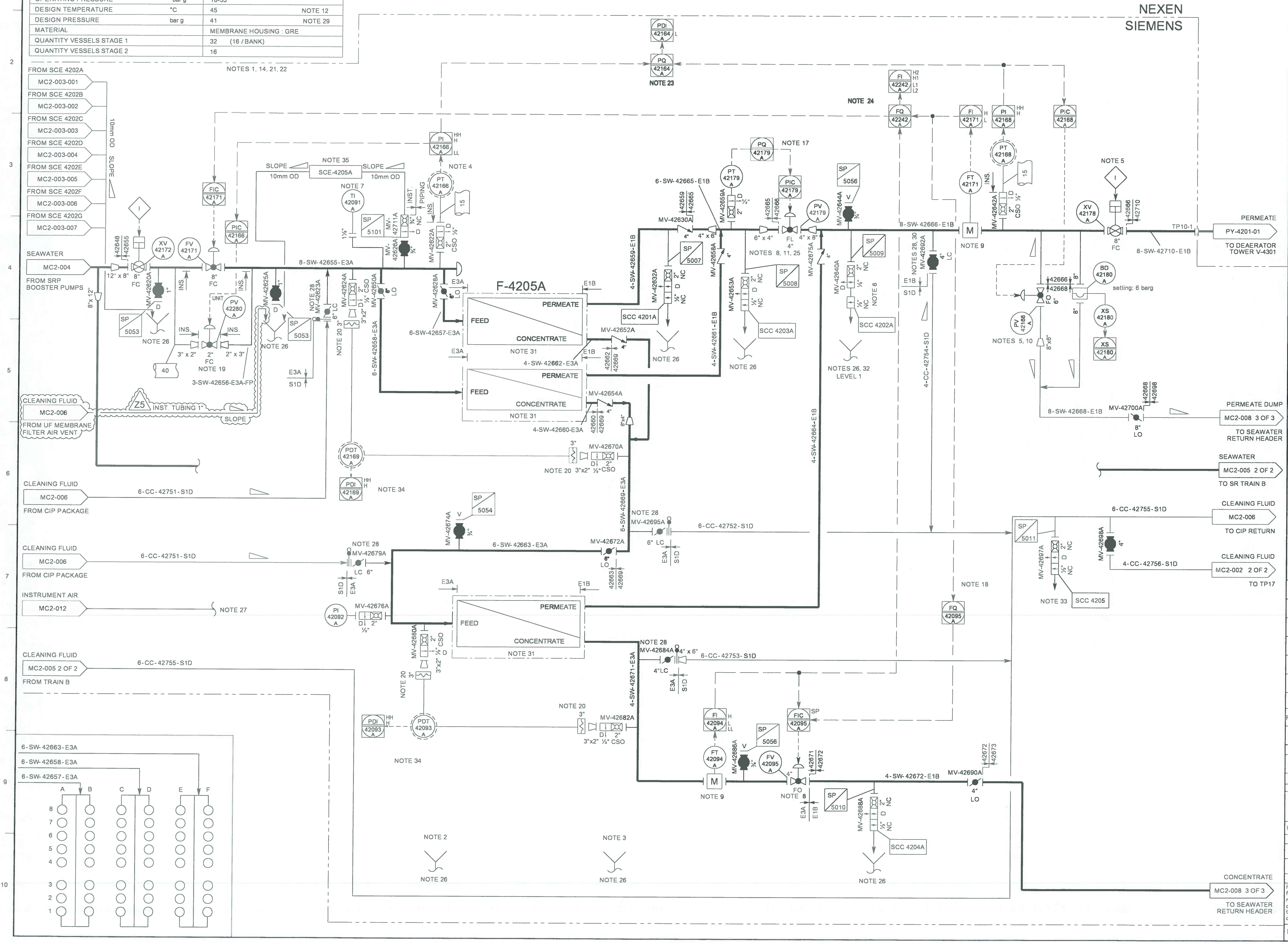
TAG NO		F-4205A
DESCRIPTION		SR MEMBRANE UNIT A 1X50%
MEDIUM		SEA WATER
PERMEATE CAPACITY	m^3/h	331
FILTER PERFORMANCE	ppm	<50 SULPHATE (SO_4)
OPERATING TEMPERATURE	°C	9-30
OPERATING PRESSURE	bar g	18-33
DESIGN TEMPERATURE	°C	45 NOTE 12
DESIGN PRESSURE	bar g	41 NOTE 29
MATERIAL		MEMBRANE HOUSING : GRE
QUANTITY VESSELS STAGE 1		32 (16 / BANK)
QUANTITY VESSELS STAGE 2		16



TIE-IN	SIZE	TYPE	RATING	SERVICE
TP10-1	8"	RF	SCHEDULE 10S, #150	SEAWATER

NOTES

1. PIPING TO BE INSTALLED WITH HIGH POINT VENT AND LOW POINT DRAIN. PIPING TO AVOID AS POSSIBLE STAGNANT REGIONS OR DEAD LEGS.
2. COMMON DRIP TRAY FOR ALL MEMBRANE INLET NOZZLES
3. COMMON DRIP TRAY FOR ALL MEMBRANE OUTLET NOZZLES
4. ALARM INDICATION TO ALERT OPERATOR TO CLEAN THE MEMBRANES. SET 10% ABOVE NORMALIZED MEMBRANE FEED PRESSURE.
5. DUMP/ RETURN ~~VALVE~~ OPERATION ARE INTER LOCKED. IE IN CASE RETURN VALVE CLOSES XV-42178 OR FAILS, DUMP VALVE OPENS AUTOMATICALLY SIMULTANEOUSLY. XV-42178 SLOW CLOSING, PV-42168 QUICK OPENING.
6. SAMPLING POINT WITH OUTLET AT LOW ELEVATION. EL 48000. ALL SAMPLING POINTS TO BE ACCORDING TO VDS SP-1033.
7. LOCAL TEMPERATURE INDICATION PRIOR TO START UP.
8. VALVE FITTED WITH MECH STOP TO PREVENT CLOSURE DURING OPERATION
9. 5D STRAIGHT LENGTH UPSTREAM AND 3D STRAIGHT LENGTH DOWNSTREAM FLOWMETER. (MAG FLOW).
10. PV PLACED AT HIGHER ELEVATION THAN PERMEATE PIPE.
11. PV IS IN LIEU OF A MULTIHOLE RESTRICTION ORIFICE.
12. SYSTEM DESIGN 55°C, MEMBRANE DESIGN 45°C. ABOVE THIS TEMPERATURE THE MEMBRANES WILL DETERIORATE
13. DELETED.
14. DETAILS OF DRAIN & SHOWERS ARRANGEMENT FROM ROOF ON P&ID MC2-008.
15. DELETED.
16. DELETED.
17. CALCULATION ACCORDING TO NORMALIZED PRESSURE, TEMPERATURE TI-41043 AND FOULING DEGREE.
18. SET POINT FOR FIC-42095 IS CALCULATED ACCORDING TO FIC-42171 X 0,33. TWO SEPARATE LOOPS WITH FQ ARE REQUIRED.
19. BYPASS CONTROL VALUE TO BE USED ONLY DURING START-UP.
20. DIAPHRAGM SEAL TO BE SUPPLIED WITH FLUSHING RING.
21. REFERENCE TO P&ID LEGEND 168397-100-PR-PI-0001-01 TO 0012-01.
22. ALL MANUAL VALVES CAN BE LOCKED WITH PAD LOCK OR CAR SEAL.
23. PRESSURE DIFFERENTIAL MEASUREMENT TO PROTECT THE SR MEMBRANES, WHICH CANNOT TOLERATE REVERSE BACK PRESSURE.
24. FQ IS CALCULATING THE TOTAL FLOW TO INLET OF SR TRAIN.
25. FAIL MODE: LAST POSITION.
26. REFER TO P&ID 168397-200-PO-3363-MC2-013 FOR DETAILS.
27. REFER TO P&ID 168397-200-PO-3363-MC2-012 FOR DETAILS.
28. SEQUENCE BEFORE STARTING A CIP CLEANING REFER TO MC2-014 NOTE 4.
29. 12 barg DESIGN PRESSURE FOR PVC CONNECTIONS.
30. VALVE TO BE CSO DURING CIP CLEANING TO PROTECT SRU MEMBRANES FROM REVERSE BACK PRESSURE.
31. REFER TO P&ID 168397-200-PO-3363-MC2-014 FOR DETAILS.
32. TUNDISH LOCATED AT DECK LEVEL 1.
33. ONLY FOR CHECK OF CLEANING FLUID TYPICAL ONCE A YEAR DURING SR-MEMBRANE CLEANING. NO TUNDISH NEEDED.
34. STAGE 1 AND STAGE 2 HIGH DP TRIPS ARE FIXED SETTINGS INCORPORATING MAXIMUM RECOMMENDED MEMBRANE DP AND PIPING FRICTIONAL LOSSES AT TURNDOWN FLOW.
35. REFER TO P&ID NO. 168397-100-PR-PI-0012-02 FOR SAMPLE CONNECTION DETAILS.

SIEMENS DRW: 51PO-03733.410-H-005 SIEMENS REV: 09

REV	DATE	DESCRIPTION	DRN	CHK	APP	CLT
Z5	15/11/18	AS-BUILT FOR GMOC0145	[signature]	[signature]	[signature]	[signature]
Z4	28.03.2018	AS-BUILT FOR GMOC0108	LM	JL	JL	TR
Z3	06.12.2017	AS-BUILT FOR GMOC0110	LM	AC	AC	TR
Z2	03.11.2017	AS-BUILT FOR GMOC0213	LM	SB	SB	TR
Z1	26.10.2016	AD-HOC AS-BUILT	LM	AH	AH	RA
09	09.07.2013	AS-BUILT	VM	DC	MM	CB

Nexen Petroleum (U.K.) Limited
Golden Eagle Area Development

VENDOR : SIEMENS (AMEC FW)

EQUIPMENT TITLE: PIPING & INSTRUMENT DIAGRAM (P&ID) SR MEMBRANE UNIT (F-4205A)

EQUIPMENT TAG NO(S) : F-4205A

GEAD Vendor Document Number

Purchase Order Number	Doc Type Code	Seq. No	Sht. No	Rev.	DATE
168397-200-PO-3363 –	MC2 –	005 –	01	Z5	15/11/18

INCLUDES DOCUMENT CODES : TOTAL SHEETS : 1 OF 2

F	Final (accepted) – manufacturing may proceed.
A	Qualified Release – revise and re-submit. Manufacturing may proceed subject to incorporation of comments.
R	Rejected – revise and re-submit. Manufacturing may not proceed.
I	Accepted for information only.

Review of Vendor documents does not relieve Vendor of the responsibility for correctness under the Purchase Order. Permission to proceed does not constitute acceptance of design, detail and calculations, test methods or materials developed or selected by the Vendor and does not relieve the Vendor from full compliance with the Purchase Order or any other obligations, nor detract from any of the Purchaser's rights.

Engineer : Date:

FILENAME S:\PROJECT\NEXEN\GOLDEN EAGLE\WORKSCOPES\GMOC0145 RECTIFICATION OF SEAWATER INGRESS INTO THE CIP TANK\PROCESS\P&IDS\AS-BUILDING\168397-200-PO-3363-MC2-005-01_Z5.DWG (PRINTED 15/11/2018 11:34:26)