

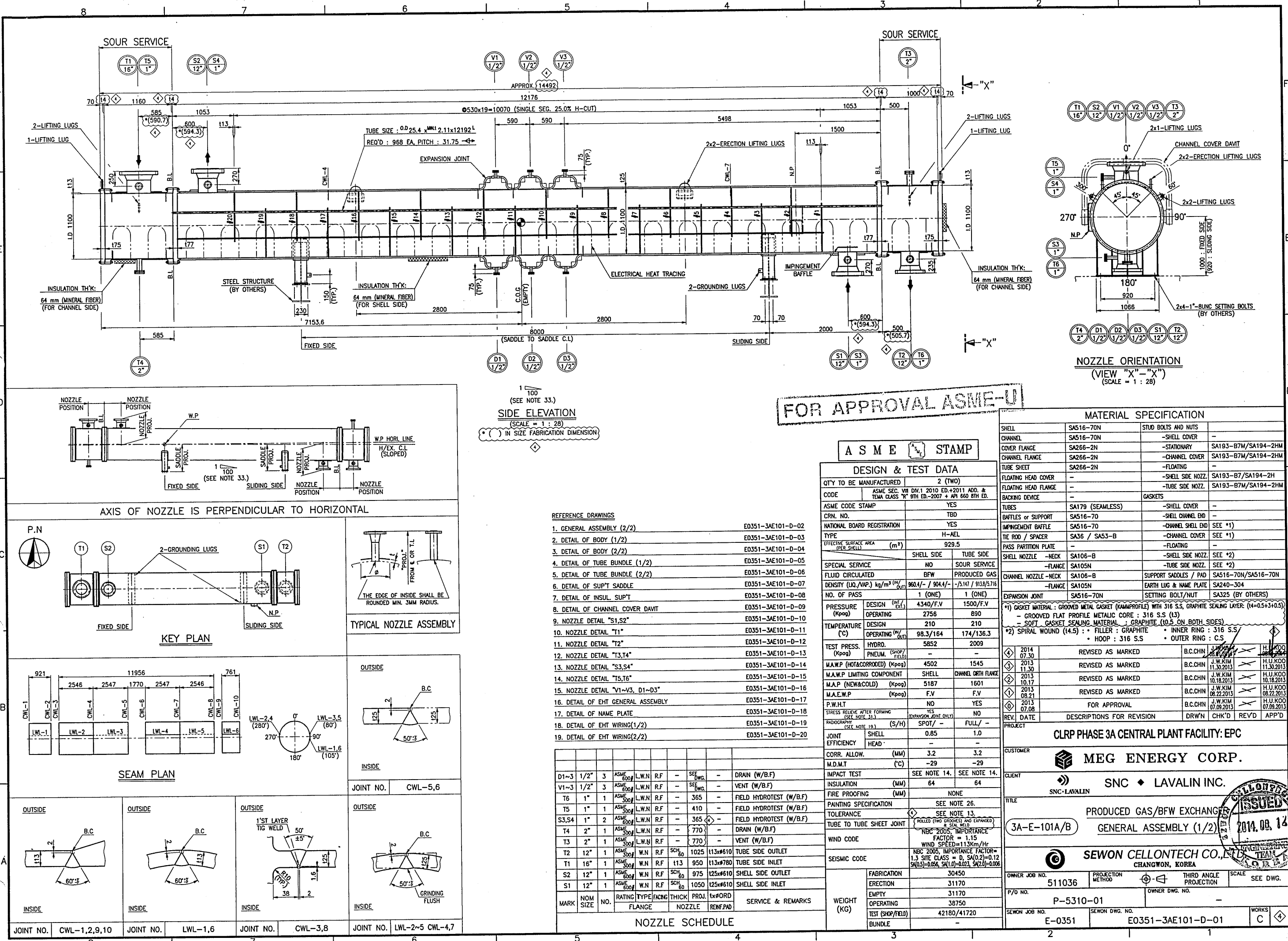
 MEG ENERGY		CHRISTINA LAKE REGIONAL PROJECT Phase 3A EPC for Central Plant Facilities SLI Project No. 511036		 SNC-LAVALIN	
 SNC-LAVALIN		<input type="checkbox"/> A1 Not suitable to initiate fabrication. modify as noted, resubmit for review <input type="checkbox"/> B1 Suitable to initiate fabrication as noted. modify as noted, resubmit for review <input type="checkbox"/> C1 Suitable to fabricate to completion as noted. submit final documents including as-builts as required <input checked="" type="checkbox"/> D1 Suitable to fabricate to completion. submit final documents including as-built documents as required <input type="checkbox"/> E1 Not suitable as final documents as noted. modify as noted and resubmit. <input type="checkbox"/> F1 Suitable as final documents. no further resubmittal required (unless revised by vendor) <input type="checkbox"/> VX Vendor document cancelled.			
Vendor's drawing review for conformity with specifications and design drawing.					
This review does not relieve the vendor of his responsibility for errors in design and detailing as detailed in his contract.					
Vendor: Sewon Cellontech Co. Ltd. - P00007		No.: E0351-3AE101-D-01		Rev: 4	
Doc. Title:	H00.01 - GENERAL ASSEMBLY (1/2) - Tag: 3A-E-101A/B				
Client Code:		Project No: 511036		Date Rec'd: 2014/08/14	
Reviewed by: SS Date: 26-Aug-2014		Document No: P-5310-01-0001		Submittal: 05	



FOR APPROVAL ASME-U

ASME STAMP

DESIGN & TEST DATA			
QTY TO BE MANUFACTURED		2 (TWO)	
CODE	ASME SEC. VIII DIV.1 2010 ED.+ 2011 ADD. & TEMA CLASS "R" 9TH ED.-2007 + API 660 8TH ED.		
ASME CODE STAMP		YES	
CRN. NO.		TBD	
NATIONAL BOARD REGISTRATION		YES	
TYPE		H-AEL	
EFFECTIVE SURFACE AREA (PER SHELL)		929.5	
		SHELL SIDE	TUBE SIDE
SPECIAL SERVICE		NO	SOUR SERVICE
FLUID CIRCULATED		BFW	PRODUCED GAS
DENSITY (LIQ./VAP.) kg/m ³ (lb/ft ³)		960.4/- / 904.4/-	-/517 / 913/517
NO. OF PASS		1 (ONE)	1 (ONE)
PRESSURE (Kpa)	DESIGN (INT./EXT.)	4340/F.V	1500/F.V
	OPERATING	2756	890
TEMPERATURE (°C)	DESIGN	210	210
	OPERATING (W/OUT)	98.3/164	174/136.3
TEST PRESS. (Kpa)	HYDRO.	5852	2009
	PNEUM. (SHOP / FIELD)	-	-
M.A.W.P. (HOT&CORRODED) (Kpa)		4502	1545
M.A.W.P. LIMITING COMPONENT		SHELL	CHANNEL ORTH FLW
M.A.P. (NEW&COLD) (Kpa)		5187	1601
M.A.E.W.P. (Kpa)		F.V	F.V
P.W.H.T		NO	YES
STRESS RELIEVE AFTER FORMING (SEE NOTE 31.)		YES	NO
RADIOGRAPHY (SEE NOTE 19.) (S/H)		SPOT/ -	FULL/ -
JOINT EFFICIENCY	SHELL	0.85	1.0
	HEAD	-	-
CORR. ALLOW. (MM)		3.2	3.2
M.D.M.T. (°C)		-29	-29
IMPACT TEST		SEE NOTE 14.	SEE NOTE 14.
INSULATION (MM)		64	64
FIRE PROOFING (MM)		NONE	
PAINTING SPECIFICATION		SEE NOTE 26.	
TOLERANCE		SEE NOTE 13.	
TUBE TO TUBE SHEET JOINT		(ROLLED TWO GROOVES) AND EXPANDED SEAL WELD	
WIND CODE		NBC 2005, IMPORTANCE FACTOR = 1.15 WIND SPEED=113km/Hr	
SEISMIC CODE		NBC 2005, IMPORTANCE FACTOR = 1.3 SITE CLASS = D, SA(0.2) = 0.12, SA(0.5) = 0.056, SA(1.0) = 0.023, SA(2.0) = 0.006	
WEIGHT (KG)	FABRICATION	30450	
	ERECTION	31170	
	EMPTY	31170	
	OPERATING	38750	
	TEST (SHOP/FIELD)	42180/41720	
BUNDLE		-	

REFERENCE DRAWINGS		
1. GENERAL ASSEMBLY (2/2)	E0351-3AE101-D-02	
2. DETAIL OF BODY (1/2)	E0351-3AE101-D-03	
3. DETAIL OF BODY (2/2)	E0351-3AE101-D-04	
4. DETAIL OF TUBE BUNDLE (1/2)	E0351-3AE101-D-05	
5. DETAIL OF TUBE BUNDLE (2/2)	E0351-3AE101-D-06	
6. DETAIL OF SUPT SADDLE	E0351-3AE101-D-07	
7. DETAIL OF INSUL SUPT	E0351-3AE101-D-08	
8. DETAIL OF CHANNEL COVER DAVIT	E0351-3AE101-D-09	
9. NOZZLE DETAIL "S1,S2"	E0351-3AE101-D-10	
10. NOZZLE DETAIL "T1"	E0351-3AE101-D-11	
11. NOZZLE DETAIL "T2"	E0351-3AE101-D-12	
12. NOZZLE DETAIL "T3,T4"	E0351-3AE101-D-13	
13. NOZZLE DETAIL "S3,S4"	E0351-3AE101-D-14	
14. NOZZLE DETAIL "T5,T6"	E0351-3AE101-D-15	
15. NOZZLE DETAIL "V1-V3, D1-D3"	E0351-3AE101-D-16	
16. DETAIL OF EHT GENERAL ASSEMBLY	E0351-3AE101-D-17	
17. DETAIL OF NAME PLATE	E0351-3AE101-D-18	
18. DETAIL OF EHT WIRING (1/2)	E0351-3AE101-D-19	
19. DETAIL OF EHT WIRING (2/2)	E0351-3AE101-D-20	

MARK	NOM SIZE	RATING	TYPE	FACING	THICK	PROJ.	1x#ORD	SERVICE & REMARKS
D1~3	1/2"	3	ASME 800F	L.W.N	R.F	-	SEE DWG.	DRAIN (W/B.F)
V1~3	1/2"	3	ASME 800F	L.W.N	R.F	-	SEE DWG.	VENT (W/B.F)
T6	1"	1	ASME 300F	L.W.N	R.F	-	365	FIELD HYDROTEST (W/B.F)
T5	1"	1	ASME 300F	L.W.N	R.F	-	410	FIELD HYDROTEST (W/B.F)
S3,S4	1"	2	ASME 300F	L.W.N	R.F	-	365	FIELD HYDROTEST (W/B.F)
T4	2"	1	ASME 300F	L.W.N	R.F	-	770	DRAIN (W/B.F)
T3	2"	1	ASME 300F	L.W.N	R.F	-	770	VENT (W/B.F)
T2	12"	1	ASME 300F	W.N	R.F	SCH 80	1025	113x#610 TUBE SIDE OUTLET
T1	16"	1	ASME 300F	W.N	R.F	SCH 80	950	113x#780 TUBE SIDE INLET
S2	12"	1	ASME 300F	W.N	R.F	SCH 80	975	125x#610 SHELL SIDE OUTLET
S1	12"	1	ASME 300F	W.N	R.F	SCH 80	1050	125x#610 SHELL SIDE INLET
MARK	NOM SIZE	RATING	TYPE	FACING	THICK	PROJ.	1x#ORD	SERVICE & REMARKS

NOZZLE SCHEDULE

MATERIAL SPECIFICATION

SHELL	SA516-70N	STUD BOLTS AND NUTS	-
CHANNEL	SA516-70N	-SHELL COVER	-
COVER FLANGE	SA266-2N	-STATIONARY	SA193-B7M/SA194-2HM
CHANNEL FLANGE	SA266-2N	-CHANNEL COVER	SA193-B7M/SA194-2HM
TUBE SHEET	SA266-2N	-FLOATING	-
FLOATING HEAD COVER	-	-SHELL SIDE NOZZ.	SA193-B7/SA194-2H
FLOATING HEAD FLANGE	-	-TUBE SIDE NOZZ.	SA193-B7M/SA194-2HM
BACKING DEVICE	-	GASKETS	-
TUBES	SA179 (SEAMLESS)	-SHELL COVER	-
BAFFLES or SUPPORT	SA516-70	-SHELL CHANNEL END	-
IMPINGEMENT BAFFLE	SA516-70	-CHANNEL SHELL END	SEE *1)
THE ROD / SPACER	SA36 / SA53-B	-CHANNEL COVER	SEE *1)
PASS PARTITION PLATE	-	-FLOATING	-
SHELL NOZZLE -NECK	SA106-B	-SHELL SIDE NOZZ.	SEE *2)
-FLANGE	SA105N	-TUBE SIDE NOZZ.	SEE *2)
CHANNEL NOZZLE -NECK	SA106-B	SUPPORT SADDLES / PAD	SA516-70N/SA516-70N
-FLANGE	SA105N	EARTH LUG & NAME PLATE	SA240-304
EXPANSION JOINT	SA516-70N	SETTING BOLT/NUT	SA325 (BY OTHERS)

*1) GASKET MATERIAL: GROOVED METAL GASKET (KAMMPROFILE) WITH 316 S.S. GRAPHITE SEALING LAYER: (14=0.5+10.5)
- GROOVED FLAT PROFILE METALIC CORE: 316 S.S. (13)
- SOFT GASKET SEALING MATERIAL: GRAPHITE (10.5 ON BOTH SIDES)
*2) SPIRAL WOUND (14.5): • FILLER: GRAPHITE • INNER RING: 316 S.S. • OUTER RING: C.S.

REV	DATE	DESCRIPTIONS FOR REVISION	DRWN	CHK'D	REV'D	APP'D
2014 07.30		REVISED AS MARKED	B.C.CHIN			H.U.KOO
2013 11.30		REVISED AS MARKED	B.C.CHIN			H.U.KOO
2013 10.17		REVISED AS MARKED	B.C.CHIN			H.U.KOO
2013 08.21		REVISED AS MARKED	B.C.CHIN			H.U.KOO
2013 07.08		FOR APPROVAL	B.C.CHIN			H.U.KOO

CLRP PHASE 3A CENTRAL PLANT FACILITY: EPC

CUSTOMER		MEG ENERGY CORP.	
CLIENT		SNC • LAVALIN INC.	
TITLE		PRODUCED GAS/BFW EXCHANGER	
3A-E-101A/B		GENERAL ASSEMBLY (1/2)	
SEWON CELLONTECH CO., LTD.		CHANGWON, KOREA	
OWNER JOB NO.	511036	PROJECTION METHOD	THIRD ANGLE PROJECTION
P/O NO.	P-5310-01	OWNER DWG. NO.	-
SEWON JOB NO.	E-0351	SEWON DWG. NO.	E0351-3AE101-D-01
WORKS			