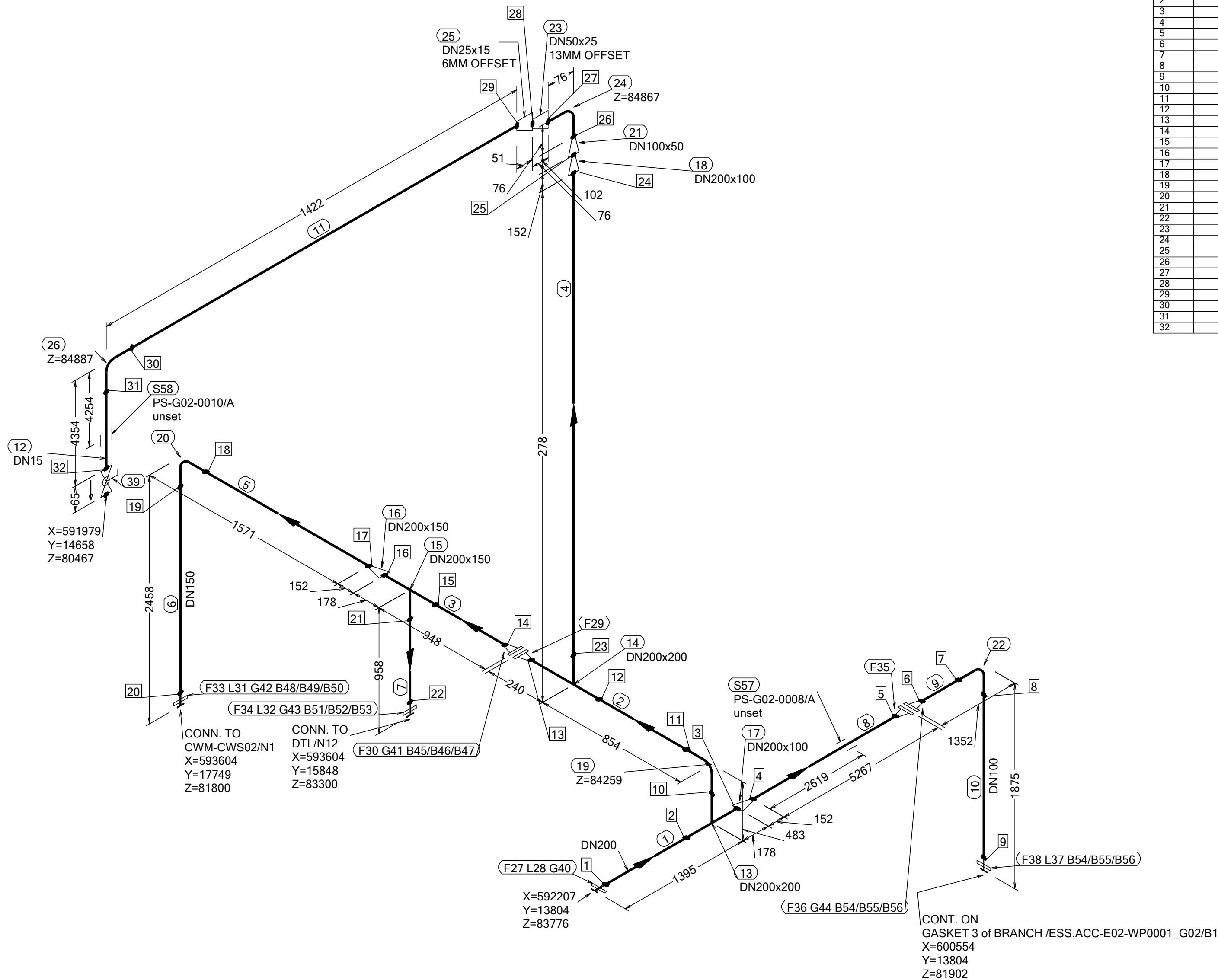
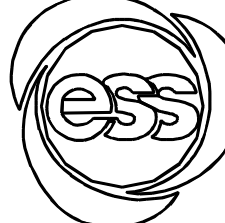


N (Y)



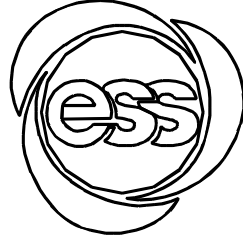
WELD	WPS	FABRICATION MATERIALS					
1		PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
2			PIPE				
3		1	PIPE, SS-EN 10217-7, TC1, 219.1x3.0	200	EN 1.4404	1155	
4		2	PIPE, SS-EN 10217-7, TC1, 219.1x3.0	200	EN 1.4404	371	
5		3	PIPE, SS-EN 10217-7, TC1, 219.1x3.0	200	EN 1.4404	708	
6		4	PIPE, SS-EN 10217-7, TC1, 219.1x3.0	200	EN 1.4404	100	
7		5	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	1342	
8		6	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	2174	
9		7	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	735	
10		8	PIPE, SS-EN 10217-7, TC1, 114.3x2.0	100	EN 1.4404	5215	
11		9	PIPE, SS-EN 10217-7, TC1, 114.3x2.0	100	EN 1.4404	1148	
12		10	PIPE, SS-EN 10217-7, TC1, 114.3x2.0	100	EN 1.4404	1671	
13		11	PIPE, SS-EN 10217-7, TC1, 21.3x2.0	15	EN 1.4404	1394	
14		12	PIPE, SS-EN 10217-7, TC1, 21.3x2.0	15	EN 1.4404	4326	
15			FITTINGS				
16		13	TEE EQUAL, SS-EN 10253-4, TYPE A, 219.1x3.0 / 219.1x3.0	200 x 200	EN 1.4404	1	
17		14	TEE EQUAL, SS-EN 10253-4, TYPE A, 219.1x3.0 / 219.1x3.0	200 x 200	EN 1.4404	1	
18		15	TEE REDUCED, SS-EN 10253-4, TYPE A, 219.1x3.0 / 168.3x2.0	200 x 150	EN 1.4404	1	
19		16	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 219.1x3.0 / 168.3x2.0	200 x 150	EN 1.4404	1	
20		17	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 219.1x3.0 / 114.3x2.0	200 x 100	EN 1.4404	1	
21		18	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 219.1x3.0 / 114.3x2.0	200 x 100	EN 1.4404	1	
22		19	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 219.1x3.0	200	EN 1.4404	1	
23		20	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 168.3x2.0	150	EN 1.4404	1	
24		21	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 114.3x2.0 / 60.3x2.0	100 x 50	EN 1.4404	1	
25		22	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 114.3x2.0	100	EN 1.4404	1	
26		23	REDUCER ECC, SS-EN 10253-4, TABLE A.5, 60.3x2.0 / 33.7x2.0	50 x 25	EN 1.4404	1	
27		24	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 60.3x2.0	50	EN 1.4404	1	
28		25	REDUCER ECC, SS-EN 10253-4, TABLE A.5, 33.7x2.0 / 21.3x2.0	25 x 15	EN 1.4404	1	
29		26	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 21.3x2.0	15	EN 1.4404	1	
30			FLANGES				
31		27	LOOSE FLANGE, SS-EN 1092-1, TYP 02, PN16	200		1	
32		28	WELDING RING WITH COLLAR, SS-EN 1092-1 TYPE 35, PN16	200		1	
33		29	FLANGE WN, SS-EN 1092-1, TYPE 11, PN16	200		1	
34		30	FLANGE WN, SS-EN 1092-1, TYPE 11, PN16	200		1	
35		31	WELDING RING WITH COLLAR, SS-EN 1092-1 TYPE 35, PN16	150		1	
36		32	WELDING RING WITH COLLAR, SS-EN 1092-1 TYPE 35, PN16	150		1	
37		33	LOOSE FLANGE, SS-EN 1092-1, TYP 02, PN16	150		1	
38		34	LOOSE FLANGE, SS-EN 1092-1, TYP 02, PN16	150		1	
39		35	FLANGE WN, SS-EN 1092-1, TYPE 11, PN16	100		1	
40		36	FLANGE WN, SS-EN 1092-1, TYPE 11, PN16	100		1	
41		37	WELDING RING WITH COLLAR, SS-EN 1092-1 TYPE 35, PN16	100		1	
42		38	LOOSE FLANGE, SS-EN 1092-1, TYP 02, PN16	100		1	
43			VALVES / IN-LINE ITEMS				
44		39	BALL VALVE, WORCESTER A44, SHORT, BW	15		1	
ERECTION MATERIALS							
		PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
			GASKETS				
		40	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	200	EXPANDED GRAPHITE	1	
		41	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	200	EXPANDED GRAPHITE	1	
		42	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	150	EXPANDED GRAPHITE	1	
		43	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	150	EXPANDED GRAPHITE	1	
		44	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	100	EXPANDED GRAPHITE	1	
			BOLTS				
		45	HEXAGONAL NUT, M6M, ISO 4032	20	EN 1515-4, A4, HV≥250	12	
		46	WASHER, BRB, ISO 7089	20	EN 1515-4, A4, HV≥250	24	
*****							
* CONT. ON SHEET 1A *							

WPS See Weldlist	Design Temperature 50degC	Tightening Torque For Flange Joints TBN	P&ID Drawing Number ESS-0060416	General Layout Drawing Number TBN	Calculation Report ESS-0058702	Inspection Plan TBN	Area Code G02
Quality Level For Weldign Acc To TBN	Design Pressure 10bar (g)	Bend Radius N/A	Bending Procedure N/A	Coupling Installation Procedure TBN	Pressure Test Program TBN	Alternate System Tag	Date (First Issue) 170522
Weld Joint Efficiency Factor (Longitudinal) 1,0	Test Pressure 14.3bar (g)	Insulation Specification N/A			Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWM DIW SUPPLY FOR FEB ESS.ACC.E02.WP0001		Scale -
Elevation (z) Acc To BCS	Quality Class MQC4-C	Insulation Thickness N/A					Format A2
	Media CWM	Allowance For Corrosion 0					Sheet 1 of 1
	Pipe Specification MQC4-W-PN16	Surface Treatment N/A			Document Number ESS-XXXXXX1		Revision A1

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		



***** * CONT. FROM SHEET 1 * *****					
47	80 mm HEXAGONAL BOLT, M6S, ISO 4017	20	EN 1515-4, A4-70	12	
48	HEXAGONAL NUT, M6M, ISO 4032	20	EN 1515-4, A4	8	
49	WASHER, BRB, ISO 7089	20	A4, HV≥250	16	
50	90 mm HEXAGONAL BOLT, M6S, ISO 4017	20	EN 1515-4, A4-70	8	
51	HEXAGONAL NUT, M6M, ISO 4032	20	EN 1515-4, A4	8	
52	WASHER, BRB, ISO 7089	20	A4, HV≥250	16	
53	90 mm HEXAGONAL BOLT, M6S, ISO 4017	20	EN 1515-4, A4-70	8	
54	HEXAGONAL NUT, M6M, ISO 4032	16	EN 1515-4, A4	16	
55	WASHER, BRB, ISO 7089	16	A4, HV≥250	32	
56	70 mm HEXAGONAL BOLT, M6S, ISO 4017	16	EN 1515-4, A4-70	16	
	<u>SUPPORTS</u>				
57	ESS Atta	100		1	
58	ESS Atta	15		1	

WPS See Weldlist	Design Temperature	Tightening Torque For Flange Joints	P&ID Drawing Number	General Layout Drawing Number	Calculation Report	Inspection Plan	Area Code
TBN	50degC	TBN	ESS-0060416	TBN	ESS-0058702	TBN	G02
Quality Level For Weldign Acc To	Design Pressure	Bend Radius	Bending Procedure	Coupling Installation Procedure	Pressure Test Program	Alternate System Tag	Date (First Issue)
TBN	10bar (g)	N/A	N/A	TBN	TBN		170522
Weld Joint Efficiency Factor (Longitudinal)	Test Pressure	Insulation Specification			Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWM DIW SUPPLY FOR FEB ESS.ACC.E02.WP0001		Scale
1,0	14.3bar (g)	N/A					-
Elevation (z) Acc To	Quality Class	Insulation Thickness					Format
BCS	MQC4-C	N/A					A2
	Media	Allowance For Corrosion			Document Number ESS-XXXXXX1		Sheet
	CWM	0					1 of 1
	Pipe Specification	Surface Treatment					Revision
	MQC4-W-PN16	N/A					A1

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		