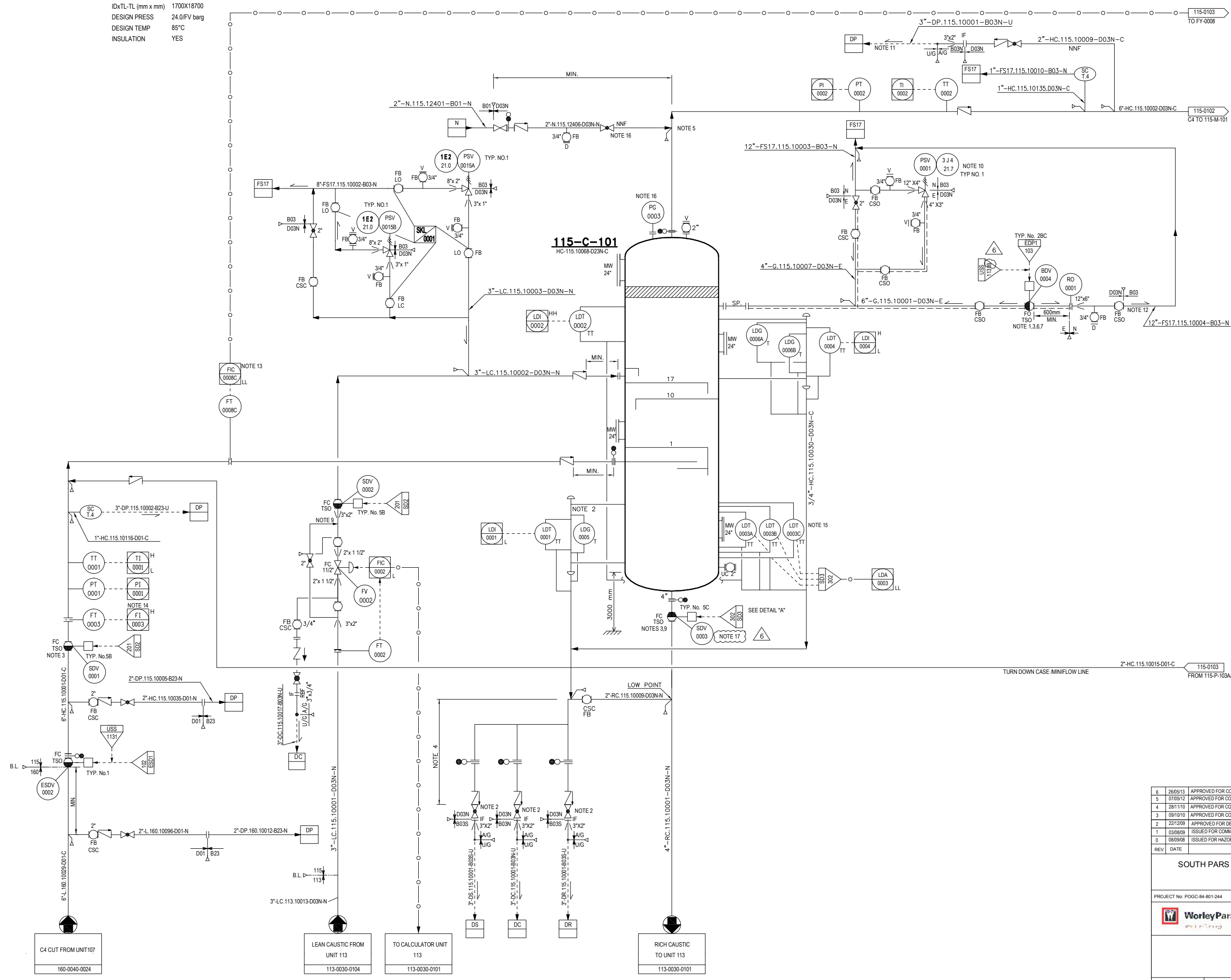


ITEM	115-C-101
SERVICE	C4 EXTRACTOR
IDxTL-TL (mm x mm)	1700X18700
DESIGN PRESS	24.0/FV barg
DESIGN TEMP	85°C
INSULATION	YES

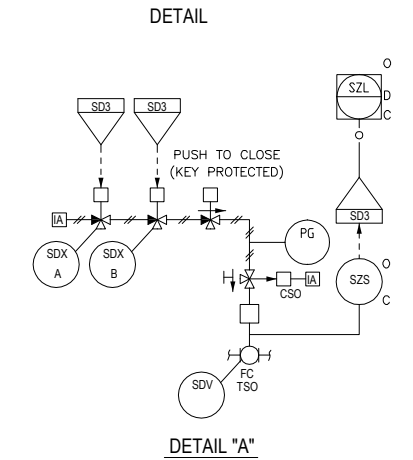


- NOTES**
- 1 - VALVE EQUIPPED WITH AIR RESERVE.
 - 2 - LDG ON 115-C-101 READABLE FROM SPENT CAUSTIC DRAINAGE VALVE FACILITIES.
 - 3 - FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC., WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
 - 4 - PRESENCE OF LPG. POSSIBILITY OF FREEZING VALVES IN CASE OF MISOPERATION. MINIMUM DISTANCE BETWEEN 2 VALVES SHALL BE 600 mm.
 - 5 - CONNECTION ON TOP OF THE LINE.
 - 6 - VALVE LOCATED AT HIGH POINT.
 - 7 - AIR RESERVE TO BE SIZED TO BE ABLE TO COMMAND FOR 3 STROKES VALVE OPERATING DURING AIR INSTRUMENT FAILURE.
 - 8 - DELETED.
 - 9 - ISOLATION VALVE TO BE LOCATED AT MINIMUM DISTANCE FROM 115-C-101.
 - 10 - SPARE RELIEF VALVE STORED IN WAREHOUSE.
 - 11 - LINE USED FOR DRAINING NON CONDENSABLE GASES.
 - 12 - TWO PHASES FLOW LINE NEED FOR REINFORCED ANCHORING.
 - 13 - IN CASE OF LOW FLOW ALARM, OPERATOR TO START 115-P-103.
 - 14 - IN CASE OF HIGH FLOW ALARM, OPERATOR TO STOP 115-P-103.
 - 15 - PROVIDE 2 OUT OF 3 VOTING SYSTEM.
 - 16 - PG 0003 TO BE READABLE FROM GLOBE VALVE.
 - 17 - LAHH-0004 AB/C IN UNIT 113 INITIATE CLOSURE OF SDV-0003.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1151 FFFF NNNN

- HOLDS**
- 1 - DELETED.
 - 2 - DELETED.



THIS P&ID IS BASED ON DRAWING NO. 115-SPD-1/6 SUPPLIED BY AXENS.

EQUIPMENT LIST			
COLUMN			
115-C-101			

UTILITY PID NUMBER			
FS17	PID-1718-186-0040-0004	DR	PID-1718-186-0040-0005
DC	PID-1718-186-0040-0005	DP	PID-1718-186-0040-0005
DS	PID-1718-186-0040-0005		
N	PID-1718-186-0040-0002		

6	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
5	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MMH	SM	RM
4	28/11/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
3	09/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
2	22/12/09	APPROVED FOR DESIGN	OIEC	SM	MA	MMF	AAP
1	03/08/09	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP
0	08/09/08	ISSUED FOR HAZOP	WP	SH	AI	RPW	RC
REV	DATE	DESCRIPTION	ORIGI	PRPD	CHD	APPD	AUTHD

SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18
ASSALUYEH-IRAN
ONSHORE FACILITIES

PROJECT No: POGC-84-801-244

DOC. CLASS 1 SCALE: N/A

WorleyParsons **IDRO** **OIEC** **IOEC**

UNIT 115: BUTANE TREATMENT AND DRYING
C4 EXTRACTOR
PIPING AND INSTRUMENT DIAGRAM

DRAWING No. PID-1718-115-0030-0101 REVISION 6

POGC

IOEC

ITEM 115-D-101
SERVICE C4 WATER WASH DRUM
IDXTL.TL 2300 mm X 9200 mm
DESIGN PRESSURE 24.0 /FV barg
DESIGN TEMPERATURE 85°C
INSULATION YES

ITEM 115-P-101 A/B (2x100%)
SERVICE C4 WATER CIRCULATION PUMPS
TYPE CENTRIFUGAL
CAPACITY 10.0 m3/h
DIFFERENTIAL PRESSURE 3.8 bar
ABSORBED POWER 3.3 kW

ITEM 115-M-101
SERVICE C4 EXTRACTOR STATIC MIXER
DESIGN PRESSURE 24.0 bar g
DESIGN TEMPERATURE 85°C

ITEM 115-P-104 A/B (2x100%)
SERVICE C4 WATER MAKE-UP PUMPS
TYPE RECIPROCATING
CAPACITY 0.2 m3/h
DIFFERENTIAL PRESSURE 3.5 bar
ABSORBED POWER 3 kW

NOTES

- LDG ON 115-D-105 TO BE READABLE FROM GLOBE VALVES, ON VESSEL DRAINS.
- BY-PASS FOR 101 C4 WATER WASH DRUM FILLING DURING START-UP.
- LINE TO BE DRAINABLE TO 115-D-101 OR TO 115-F-101 TO AVOID WATER ACCUMULATION IN LOW POINTS.
- VALVE EQUIPPED WITH AIR RESERVE.
- FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC. WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
- DELETED.
- CONNECTION ON TOP OF THE LINE.
- PRESERVE OF LPG, POSSIBILITY OF FREEZING VALVES IN CASE OF MISOPERATION. MINIMUM DISTANCE BETWEEN 2 VALVES SHALL BE 600 mm.
- SPARE RELIEF VALVES STORED IN WAREHOUSE.
- VALVE LOCATED AT HIGH POINT.
- AIR RESERVE TO BE SIZED TO BE ABLE TO COMMAND FOR 3 STROKES VALVE OPERATING DURING AIR INSTRUMENT FAILURE.
- DELETED.
- TO BE LOCATED FAR FROM PUMPS. FLOWRATE IS ADJUSTED MANUALLY
- ISOLATION VALVE TO BE LOCATED AT MINIMUM DISTANCE FROM 115-D-101.
- TWO PHASES FLOW LINES, NEED FOR REINFORCED ANCHORING.
- FOR FILTER ARRANGEMENT REFER TO TABLE "A" ON PID-1718-999-0030-0006
- ON LOW FLOW DUTY PUMP IS STOPPED AND STANDBY PUMP STARTED. IF AFTER 30 SECONDS FLOW REMAINS LOW LOW, BOTH PUMPS ARE TRIPPED.
- LAHH-0008 IS ALARM ONLY.
- SDV-0005 CLOSED INDICATION TRIPS AMINE SOLUTION CIRCULATION PUMPS 115-P-101A/B WHEN RUNNING.
- PSV, PULSATION DAMPENER AND ALL OTHER REQUIRED ACCESSORIES (AS PER PROJECT SPECIFICATION) SHALL BE SUPPLIED BY PUMP VENDOR.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1131 FFFF NNNN

HOLDS

- DELETED.
- DELETED.
- DELETED.

THIS P&ID IS BASED ON DRAWING NO. 115-SPD-26 SUPPLIED BY AXENS.

EQUIPMENT LIST

DRUM	MIXER	PUMPS	
115-D-101	115-M-101	115-P-101A/B	
		115-P-104A/B	

UTILITY PID NUMBER

DC	PID-1718-186-0040-0005
FS17	PID-1718-186-0040-0004
DR	PID-1718-186-0040-0005
SC	PID-1718-186-0040-0005

7	26/09/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
6	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MM	MM	RM
5	28/11/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
4	09/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
3	22/12/09	APPROVED FOR DESIGN	OIEC	SM	MA	MMF	AAP
2	03/08/09	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP
1	28/11/08	APPROVED FOR DESIGN	WP	SH	AI	RPW	RC
0	03/09/08	ISSUED FOR HAZOP	WP	SH	AI	RPW	RC
REV	DATE	DESCRIPTION	ORIG	PRPD	CHD	APPD	AUTHD

SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18
ASSALUYEH-IRAN
ONSHORE FACILITIES



PROJECT No: POGC-84-801-244

DOC. CLASS

1

SCALE:

N/A



UNIT 115: BUTANE TREATMENT AND DRYING
WATER WASH DRUM
PIPING AND INSTRUMENT DIA/GRAM

DRAWING No. PID-1718-115-0030-0102 REVISION 7

115-M-101

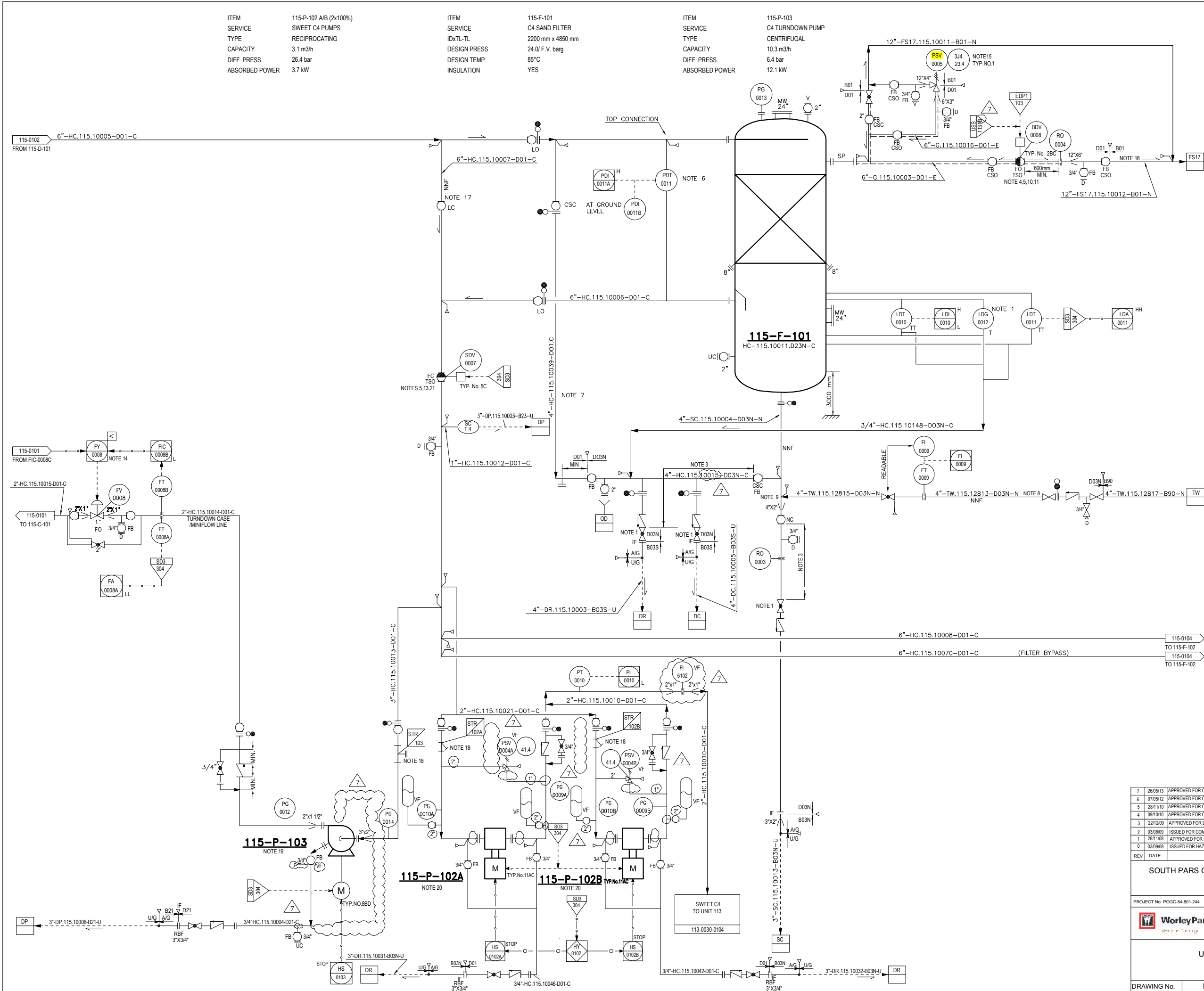
115-D-101
HC-115.10037-D23N-C

115-P-101A

115-P-101B

115-P-104A

115-P-104B



- NOTES**
- LDG ON 115-F-101 TO BE READABLE FROM GLOBE VALVES ON DRAIN LINES.
 - SAND BED.
 - PRESENCE OF C4, POSSIBILITY OF FREEZING VALVES IN CASE OF MISOPERATION. MINIMUM DISTANCE BETWEEN 2 VALVES SHALL BE 600 mm.
 - VALVE EQUIPPED WITH AIR RESERVE.
 - FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC., WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
 - LOCATE DELTA P CELL AT LOW POINT. SELF DRAINING LEGS.
 - FILTER BACK-WASH DRAIN PIPING.
 - FOR SAND FILTER BACK-WASHING.
 - CONNECTION ON TOP OF THE LINE.
 - AIR RESERVE TO BE SIZED TO BE ABLE TO COMMAND FOR 3 STROKES VALVE OPERATING DURING AIR INSTRUMENT FAILURE.
 - VALVE LOCATED AT HIGH POINT
 - DELETED.
 - ISOLATION VALVE TO BE LOCATED AT MINIMUM DISTANCE FROM 115-F-101.
 - SEE SPECIAL LOOP DESCRIPTION IN SECTION 4 OF PROCESS DATA BOOK.
 - SPARE RELIEF VALVE STORED IN WAREHOUSE.
 - TWO PHASES FLOW LINE NEED FOR REINFORCED ANCHORING.
 - SAND FILTER BY-PASS FOR MAINTENANCE.
 - FOR FILTER ARRANGMENT REFER TO TABLE "A" ON PID-1718-999-0030-0006.
 - OPERATOR TO START THE PUMP WHEN IT IS NECESSARY.
 - PSV, PULSTION DAMPENER AND ALL REQUIRED ACCESSORIES (AS PER PROJECT SPECIFICATION) SHALL BE SUPPLIED BY PUMP VENDOR.
 - SDV-0007 CLOSED INDICATION TRIPS SWEET C4 PUMP
 - 115-P-102A/B AND C4 TURN DOWN 115-P-103 WHEN RUNNING.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:

LETTERS	NUMBER
1151	FFFF NNNN

HOLDS

1- DELETED.
2- DELETED.
3- DELETED.

THIS P&ID IS BASED ON DRAWING NO. 115-SPD-3/8 SUPPLIED BY AXENS.

EQUIPMENT LIST			
FILTER	PUMP		
115-F-101	115-P-102A/B		
	115-P-103		

UTILITY PID NUMBER			
FS17	PID-1718-186-0040-0004	DC	PID-1718-186-0040-0005
DP	PID-1718-186-0040-0005	DR	PID-1718-186-0040-0005
TW	PID-1718-186-0040-0003	SC	PID-1718-186-0040-0005

7	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM	
6	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MHM	SM	RM	
5	28/11/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AP	
4	09/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AP	
3	22/12/09	APPROVED FOR DESIGN	OIEC	SM	MA	MMF	AP	
2	03/09/09	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AP	
1	28/11/08	APPROVED FOR DESIGN	WP	SH	AI	RPW	RC	
0	03/09/08	ISSUED FOR HAZOP	WP	SH	AI	RPW	RC	
REV	DATE	DESCRIPTION	ORIGI	PRPD	CHD	APPD	AUTH	
SOUTH PARS GAS FIELD DEVELOPMENT P HASES 17&18 ASSALUYEH-IRAN ONSHORE FACILITIES								
 POGC								
PROJECT No: POGC-84-801-244			DOC. CLASS		1	SCALE: N/A		
 WORLEYPARSONS			 IDRO		 OIEC		 I O B C	
UNIT 115: BUTANE TREATMENT AND DRYING FILTRATION SECTION PIPING AND INSTRUMENT DIA/GRAM								
DRAWING No.		PID-1718-115-0030-0103				REVISION		7

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ITEM 115-F-102
SERVICE C4 SAND GUARD FILTER
DESIGN PRESS 24.0 bar g
DESIGN TEMP 85°C

ITEM 115-E-102
SERVICE C4 MOLECULAR SIEVES FEED/EFFLUENT EXCHANGER
TYPE AEU OR BEU
DUTY /SURFACE 0.426 MW /20.1 m²
DESIGN PRESS SHELL 12.9 bar g TUBE 11.0 bar g
DESIGN TEMP 200°C 325°C
INSULATION H H

ITEM 115-H-101
SERVICE C4 MOLECULAR SIEVES REGENERATION ELECTRICAL HEATER
DUTY 504.2 kW
DESIGN PRESS 11.7 bar g
DESIGN TEMP 340°C

NOTES

- 1 - INSTRUMENTS AND CONTROL SYSTEM FOR EACH HEATER PASS WILL BE FINALIZED AFTER RECEIVING VENDOR DATA.
- 2 - RAMP OPERATION IS REQUIRED.
- 3 - VOTING SYSTEM. SD3 IS ACTIVATED BY AT LEAST TWO TSHH.
- 4 - TA-0021 LOW TEMPERATURE IS ALARM ONLY.
- 5 - FA-0021 HIGH FLOW IS ALARM ONLY.
- 6 - IF THE ADSORPTION PHASE END, BEFORE REGENERATION PHASE IS FINISHED, THESE QUENCH IS STOPPED AND UNIT 115 WILL BE SHUTDOWN.
- 7 - IN CASE OF HEATER TRIP, ALL VALVES IN REGENERATION CYCLE TO BE CLOSED.

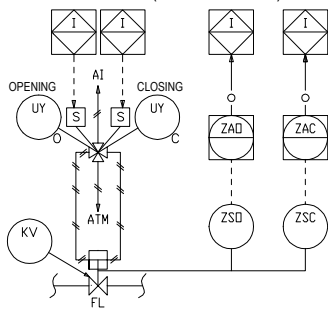
HOLDS

- 1 - DELETED.
- 2 - DELETED.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1151 FFFF NNNN

DETAIL A (ON/OFF VALVE)



THIS P&ID IS BASED ON DRAWING NO. 115-SPD-4/6 SUPPLIED BY AXENS.

EQUIPMENT LIST

EXCHANGER	FILTER	HEATER
115-E-102	115-F-102	115-H-101

UTILITY PID NUMBER

FB17	PID-1718-186-0040-0004
DP	PID-1718-186-0040-0005

REV	DATE	DESCRIPTION	ORIG	PRPD	CHD	APP'D	AUTH'D
7	26/05/13	APPROVED FOR CONSTRUCTION					
6	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MHM	SM	RM
5	28/11/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
4	09/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
3	22/12/09	APPROVED FOR DESIGN	OIEC	SM	MA	MMF	AAP
2	03/08/09	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP
1	28/11/08	APPROVED FOR DESIGN	WP	SH	AI	RPW	RC
0	08/09/08	ISSUED FOR HAZOP	WP	SH	AI	RPW	RC

SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18
ASSALUYEH-IRAN
ONSHORE FACILITIES



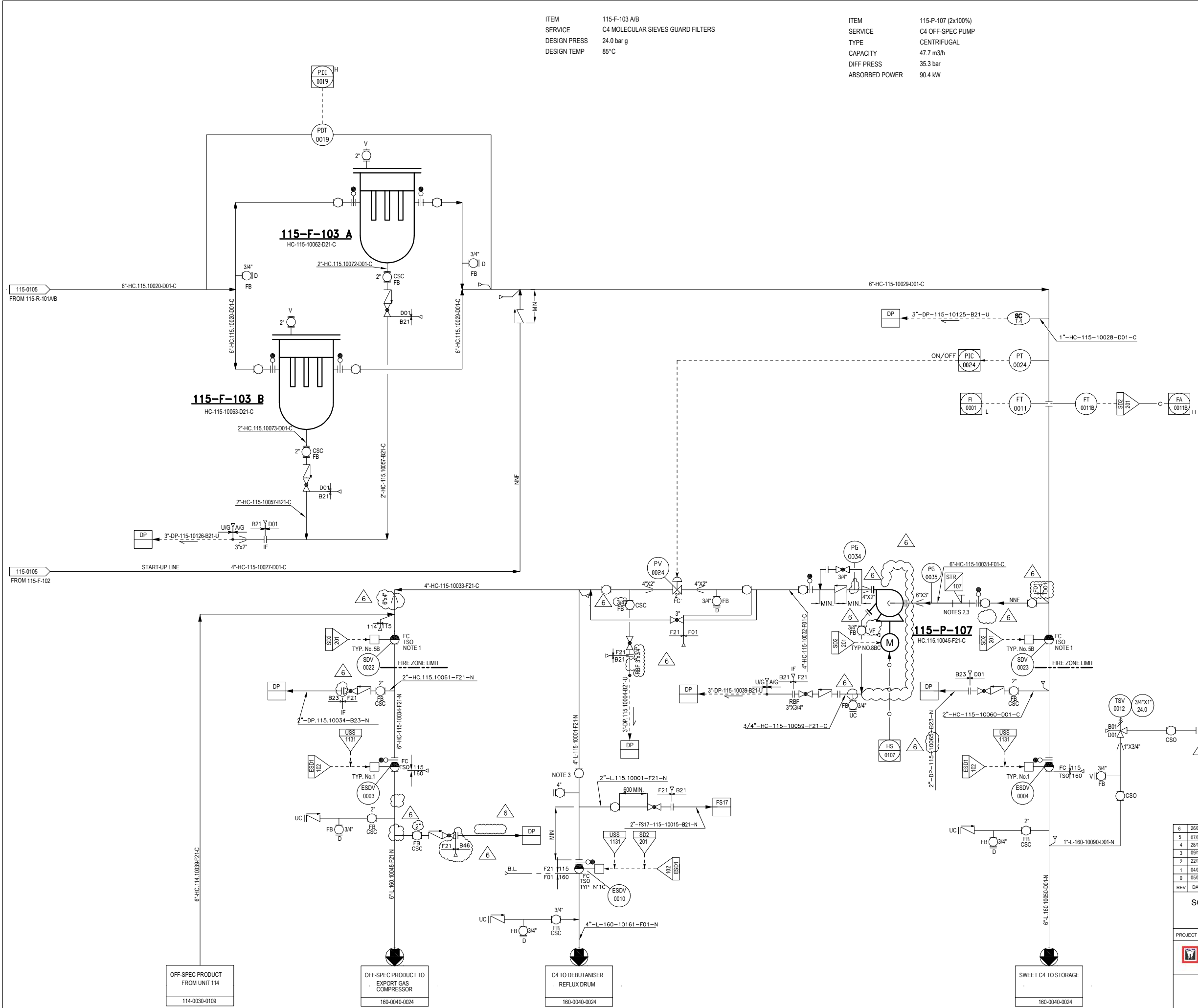
PROJECT No: POGC-84-801-244

DOC. CLASS 1 SCALE: N/A



UNIT 115: BUTANE TREATMENT AND DRYING
BUTANE FILTRATION & REGENERATION ELECTRICAL HEATER
PIPING AND INSTRUMENT DIAGRAM

DRAWING No. PID-1718-115-0030-0104 REVISION 7



ITEM 115-F-103 A/B
SERVICE C4 MOLECULAR SIEVES GUARD FILTERS
DESIGN PRESS 24.0 bar g
DESIGN TEMP 85°C

ITEM 115-P-107 (2x100%)
SERVICE C4 OFF-SPEC PUMP
TYPE CENTRIFUGAL
CAPACITY 47.7 m3/h
DIFF PRESS 35.3 bar
ABSORBED POWER 90.4 kW

- NOTES
- 1 - FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC., WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
 - 2 - FOR FILTER ARRANGEMENT REFER TO TABLE 'A' ON PID-1718-999-0030-0006.
 - 3- SUCTION AND DISCHARGE CONNECTIONS ARE FOR STATR-UP.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1151 FFFF NNNN

- HOLDS
- 1- DELETED.
 - 2- DELETED.

THIS P&ID IS BASED ON DRAWING NO. 115-SPD-616 SUPPLIED BY AXENS.

EQUIPMENT LIST			
FILTER	PUMP		
115-F-103A/B	115-P-107		

UTILITY PID NUMBER	
DP	PID-1718-186-0040-0005
FS17	PID-1718-186-0040-0004

6	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
5	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MMH	SM	RM
4	28/11/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
3	09/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
2	22/12/09	APPROVED FOR DESIGN	OIEC	SM	MA	MMF	AAP
1	04/08/09	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP
0	05/09/08	ISSUED FOR HAZOP	WP	SH	AI	RPW	RC
REV	DATE	DESCRIPTION	ORIG	PRPD	CHD	APPD	AUTHD
SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18 ASSALUYEH-IRAN ONSHORE FACILITIES							 POGC
PROJECT No: POGC-84-801-244			DOC CLASS		1	SCALE: N/A	
 WorleyParsons WORLDWIDE PROJECTS		 IDRO	 OIEC		 IOEC		
UNIT 115: BUTANE TREATMENT AND DRYING C4 PRODUCT EXPORT SECTION PIPING AND INSTRUMENT DIA/GRAM							
DRAWING No.		PID-1718-115-0030-0106				REVISION 6	

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ITEM	115-D-102	ITEM	115-A-101
SERVICE	ADSORBERS DRAINING/FILLING DRUM	SERVICE	REGENERATION GAS CONDENSER
IDxTL-TL	2300mm x 6850mm	DUTY/SURFACE	0.334 MW/23 m ²
DESIGN PRESS	12.6/F.V. barg	DESIGN PRESS	10.7 bar g
DESIGN TEMP	85°C	DESIGN TEMP	200°C
INSULATION	YES	INSTALLED POWER	11 KW

ITEM	115-E-101
SERVICE	REGENERATION GAS TRIM COOLER
TYPE	DOUBLE PIPE
DUTY/SURFACE	0.066 MW/68 m ²
SHELL	TUBE
DESIGN PRESS	11.5 bar g
DESIGN TEMP	185°C
INSULATION	N

ITEM	115-D-103
SERVICE	REGENERATION K.O. DRUM
IDxTL-TL	750mm x 2300mm
DESIGN PRESS	9.1/F.V. barg
DESIGN TEMP	185°C
INSULATION	NO

NOTES

- 1- PRESENCE OF LPG. POSSIBILITY OF FREEZING VALVES IN CASE OF MISOPERATION MINIMUM DISTANCE BETWEEN TWO VALVES SHALL BE 600 mm.
- 2- VALVE EQUIPPED WITH AIR RESERVE.
- 3- FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES...ETC, WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
- 4- VALVE LOCATED AT HIGH POINT.
- 5- AIR RESERVE TO BE SIZED TO BE ABLE TO COMMAND FOR 3 STROKES VALVE OPERATING DURING AIR INSTRUMENT FAILURE.
- 6- FOR SAFETY REASON.
- 7- TWO PHASES FLOW LINE, NEED FOR REINFORCED ANCHORING.
- 8- PIC HAS TWO SET POINTS: ONE FOR DRAINING PHASE AND ONE FOR FILLING PHASE.
- 9- RISING STEM BALL VALVE.
- 10- NUMBER OF AIR COOLER BAYS IS 1.

GENERAL NOTES

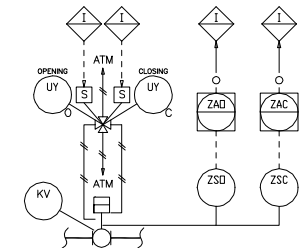
ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER

1141 FFF NNNN

HOLDS

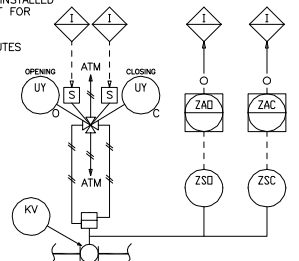
- 1- DELETED.
- 2- DELETED.
- 3- DELETED.

DETAIL A (ON/OFF VALVE)



DETAIL B (RAMP OPENING VALVE)

A RAMP SHALL BE INSTALLED ON THE AIR CIRCUIT FOR OPENING POSITION. (CLOSED TO OPEN POSITION IN 2 MINUTES APPROXIMATELY)



THIS P&ID IS BASED ON DRAWING NO. 115-SPD-7/8 SUPPLIED BY AXENS.

DRUM	EXCHANGER	AIR COOLER
115-D-102	115-E-101	115-A-101
115-D-103		

UTILITY PID NUMBER

FB17	PID-1718-186-0040-0004	FS17	PID-1718-186-0040-0004
SW	PID-1718-186-0040-0003	DS	PID-1718-186-0040-0005
DR	PID-1718-186-0040-0005		

6	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
5	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MHM	SM	RM
4	28/11/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
3	09/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
2	22/12/09	APPROVED FOR DESIGN	OIEC	SM	MA	MMF	AAP
1	04/08/09	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP
0	05/09/08	ISSUED FOR HAZOP	WP	SH	AJ	RPW	RC
REV	DATE	DESCRIPTION	ORIGI	PRPD	CHD	APPD	AUTHD

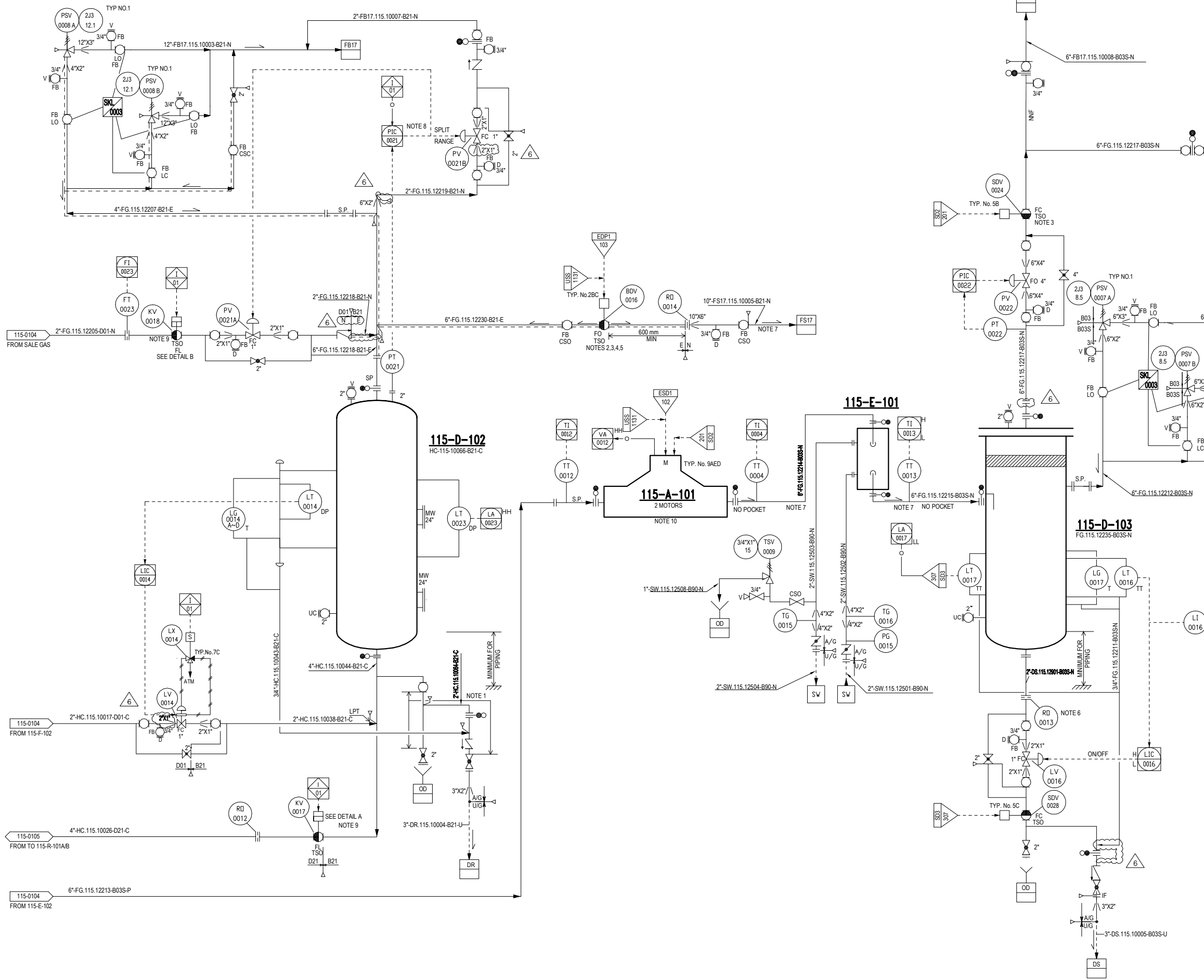
SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18 ASSALUYEH-IRAN ONSHORE FACILITIES



PROJECT No: POGC-84-801-244	DOC. CLASS	1	SCALE:	N/A
WorleyParsons	IDRO	OIEC	IOEC	

UNIT 115: BUTANE TREATMENT AND DRYING REGENERATION COOLING SECTION PIPING AND INSTRUMENT DIAGRAM

DRAWING No.	PID-1718-115-0030-0107	REVISION	6
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ITEM
SERVICE
TYPE
CAPACITY
DIFF. PRESS.
ABSORBED POWER

115-P-106 A/B (2x100%)
WATER CIRCULATION PUMPS
CENTRIFUGAL
91 m³/h
2.1 bar
1.7kw

ITEM
SERVICE
TYPE
DUTY/SURFACE
DESIGN. PRESS.
DESIGN. TEMP.
INSULATION

115-E-103
CAUSTIC RECYCLE HEATER
DOUBLE PIPE
0.347 MW/6.2 m²
SHELL TUBE
14.3barg 11.0 barg
85°C 270°C
H H

ITEM
SERVICE
TYPE
DESIGN. PRESS.
DESIGN. TEMP.
INSULATION

115-C-102
C4 CAUSTIC SCRUBBER
TOP:800mmx1200mm
BOTTOM:2400mmx3800mm
8.5 barg TOP/9.4 barg BOT/TV
85°C
YES

ITEM
SERVICE
TYPE
CAPACITY
DIFF. PRESS.
ABSORBED POWER

115-P-105 A/B (2x100%)
CAUSTIC CIRCULATION PUMPS
CENTRIFUGAL
13.6m³/h
3.5 bar
4.7KW

NOTES

- 1- OPERATOR SHOULD BE ABLE TO SWITCH FROM FUEL GAS TO FLARE DURING NORMAL OPERATION IN CASE OF SCRUBBER UPSET.
- 2- VALVE WITH MECHANICAL LIMIT STOP (IN ORDER TO AVOID FULL CLOSURE OF VALVE)
- 3- INSTRUMENT SHALL BE SELF-DRAINING.
- 4- HLL MUST BE DEFINED AT CHIMNEY TOP. TOWER WILL BE OPERATED UNDER AT HLL/HIGH LIQUID LEVEL.
- 5- LI TO BE READABLE FROM GLOBE VALVE ON DEMINERALIZED WATER.
- 6- FOR CAUSTIC INVENTORY REMOVAL OPERATION.
- 7- DELETED.
- 8- NO STEAM-OUT IS ALLOWED IF CAUSTIC SODA IS NOT PROPERLY REMOVED FROM SCRUBBER.
- 9- FOR HC PHASE DRAINING SKIMMING.
- 10- FOR FILTER ARRANGEMENT REFER TO TABLE "A" ON PID-1718-999-0030-0006.
- 11- STEAM TRAP.
- 12- FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC., WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
- 13- ON LOW LOW FLOW DUTY PUMP IS STOPPED AND STANDBY PUMP STARTED IF AFTER 30 SECONDS FLOW REMAINS LOW, PUMPS ARE TRIPPED.
- 14- DISTANCE TO BE MINIMIZED.
- 15- A RAMP SHALL BE INSTALLED ON THE AIR CIRCUIT FOR OPENING AND CLOSING POSITIONS (CLOSE TO OPEN TO CLOSE IN 2 MINUTES APPROXIMATELY. OPENING AND CLOSING TIME BE TUNABLE IN ORDER TO BE ADJUSTED ON SITE.)
- 16- RISING STEM BALL VALVE.
- 17- DRIP LEG. FOR DETAIL "A" REFER TO PID-1718-186-0040-0001.

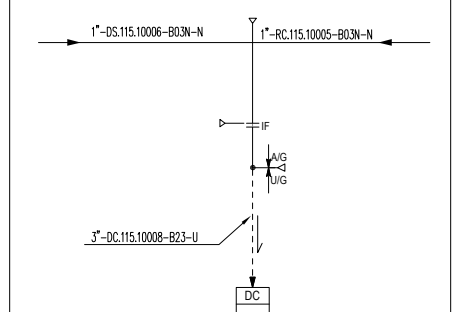
HOLDS

- 1-DELETED.
- 2-DELETED.
- 3-DELETED.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1151 FFF NNNN

DETAIL "B"



THIS P&ID IS BASED ON DRAWING NO. 115-SPD-818 SUPPLIED BY AXENS.

EQUIPMENT LIST

COLUMN	PUMPS	EXCHANGER
115-C-102	115-P-105A/B 115-P-106A/B	115-E-103

UTILITY PID NUMBER

DC	PID-1718-186-0040-0005	SL	PID-1718-186-0040-0001
DR	PID-1718-186-0040-0005	CL	PID-1718-186-0040-0001
FB17	PID-1718-186-0040-0004		
SC	PID-1718-186-0040-0005		

REV	DATE	DESCRIPTION	ORIGI	PRP'D	CH'D	AP'D	AUTH'D
6	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
5	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MHM	SM	RM
4	28/11/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
3	09/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
2	22/12/09	APPROVED FOR DESIGN	OIEC	SM	MA	MMF	AAP
1	04/08/09	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP
0	06/09/08	ISSUED FOR HAZOP	WP	SH	AI	RPW	RC

SOUTH PARS GAS FIELD DEVELOPMENT
PHASES 17&18 ASSALUYEH-IRAN
ONSHORE FACILITIES



PROJECT No: POGC-84-801-244

DOC. CLASS

1

SCALE:

N/A



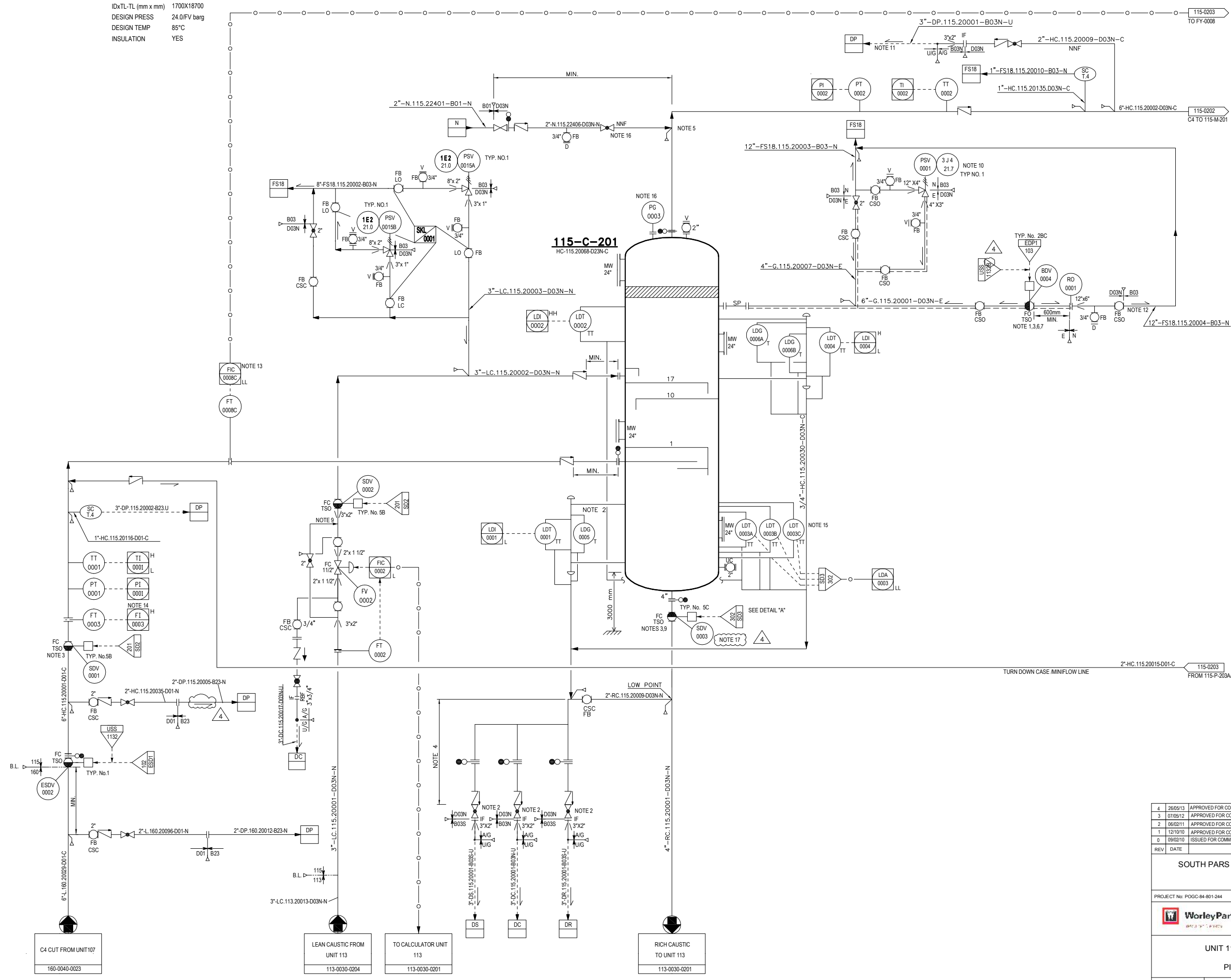
DRAWING No. UNIT 115: BUTANE TREATMENT AND DRYING
CAUSTIC SCRUBBER
PIPING AND INSTRUMENT DIAGRAM

PID-1718-115-0030-0108

REVISION 6

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ITEM 115-C-201
SERVICE C4 EXTRACTOR
IDxTL-TL (mm x mm) 1700X18700
DESIGN PRESS 24.0/FV barg
DESIGN TEMP 85°C
INSULATION YES

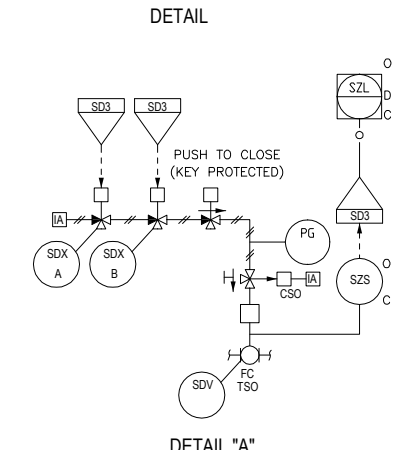


- NOTES**
- 1 - VALVE EQUIPPED WITH AIR RESERVE.
 - 2 - LDG ON 115-C-201 READABLE FROM SPENT CAUSTIC DRAINAGE VALVE FACILITIES.
 - 3 - FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC., WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
 - 4 - PRESENCE OF LPG. POSSIBILITY OF FREEZING VALVES IN CASE OF MISOPERATION. MINIMUM DISTANCE BETWEEN 2 VALVES SHALL BE 600 mm.
 - 5 - CONNECTION ON TOP OF THE LINE.
 - 6 - VALVE LOCATED AT HIGH POINT.
 - 7 - AIR RESERVE TO BE SIZED TO BE ABLE TO COMMAND FOR 3 STROKES VALVE OPERATING DURING AIR INSTRUMENT FAILURE.
 - 8 - DELETED.
 - 9 - ISOLATION VALVE TO BE LOCATED AT MINIMUM DISTANCE FROM 115-C-201.
 - 10 - SPARE RELIEF VALVE STORED IN WAREHOUSE.
 - 11 - LINE USED FOR DRAINING NON CONDENSABLE GASES.
 - 12 - TWO PHASES FLOW LINE NEED FOR REINFORCED ANCHORING.
 - 13 - IN CASE OF LOW FLOW ALARM, OPERATOR TO START 115-P-203.
 - 14 - IN CASE OF HIGH FLOW ALARM, OPERATOR TO STOP 115-P-203.
 - 15 - PROVIDE 2 OUT OF 3 VOTING SYSTEM.
 - 16 - PG 0003 TO BE READABLE FROM GLOBE VALVE.
 - 17 - LAHH-0004 A/B/C IN UNIT 113 INITIATE CLOSURE OF SDV-0003.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1152 FFFF NNNN

- HOLDS**
- 1 - DELETED.
 - 2 - DELETED.



THIS P&ID IS BASED ON DRAWING NO. 115-SPD-1/8 SUPPLIED BY AXENS.

EQUIPMENT LIST			
COLUMN			
115-C-201			

UTILITY PID NUMBER			
FS18	PID-1718-186-0040-0204	DR	PID-1718-186-0040-0205
DC	PID-1718-186-0040-0205	DP	PID-1718-186-0040-0205
DS	PID-1718-186-0040-0205		
N	PID-1718-186-0040-0202		

REV	DATE	DESCRIPTION	ORIGI	PRP'D	CH'D	APP'D	AUTH'D
4	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
3	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MHM	SM	RM
2	06/02/11	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
1	12/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
0	09/02/10	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP

SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18
ASSALUYEH-IRAN
ONSHORE FACILITIES

PROJECT No: POGC-84-801-244

DOC. CLASS 1 SCALE: N/A

WorleyParsons **IDRO** **OIEC** **IOEC**

UNIT 115: BUTANE TREATMENT AND DRYING - PHASE 18
C4 EXTRACTOR (TRAIN 2)
PIPING AND INSTRUMENT DIAGRAM

DRAWING No. PID-1718-115-0030-0201 REVISION 4

ITEM 115-D-201
SERVICE C4 WATER WASH DRUM
IDXTL.TL 2300 mm X 9200 mm
DESIGN PRESSURE 24.0 /FV barg
DESIGN TEMPERATURE 85°C
INSULATION YES

ITEM 115-P-201 A/B (2x100%)
SERVICE C4 WATER CIRCULATION PUMPS
TYPE CENTRIFUGAL
CAPACITY 10.0 m³/h
DIFFERENTIAL PRESSURE 3.8 bar
ABSORBED POWER 3.3 kW

ITEM 115-M-201
SERVICE C4 EXTRACTOR STATIC MIXER
DESIGN PRESSURE 24.0 bar g
DESIGN TEMPERATURE 85°C

ITEM 115-P-204 A/B (2x100%)
SERVICE C4 WATER MAKE-UP PUMPS
TYPE RECIPROCATING
CAPACITY 0.2 m³/h
DIFFERENTIAL PRESSURE 3.5 bar
ABSORBED POWER 3 kW

NOTES

- LDG ON 115-D-201 TO BE READABLE FROM GLOBE VALVES, ON VESSEL DRAINS.
- BY-PASS FOR C4 WATER WASH DRUM FILLING DURING START-UP.
- LINE TO BE DRAINABLE TO 115-D-201 OR TO 115-F-201 TO AVOID WATER ACCUMULATION IN LOW POINTS.
- VALVE EQUIPPED WITH AIR RESERVE.
- FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC. WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
- DELETED.
- CONNECTION ON TOP OF THE LINE.
- PRESERVE OF LPG, POSSIBILITY OF FREEZING VALVES IN CASE OF MISOPERATION. MINIMUM DISTANCE BETWEEN 2 VALVES SHALL BE 600 mm.
- SPARE RELIEF VALVES STORED IN WAREHOUSE.
- VALVE LOCATED AT HIGH POINT.
- AIR RESERVE TO BE SIZED TO BE ABLE TO COMMAND FOR 3 STROKES VALVE OPERATING DURING AIR INSTRUMENT FAILURE.
- DELETED.
- TO BE LOCATED FAR FROM PUMPS. FLOWRATE IS ADJUSTED MANUALLY
- ISOLATION VALVE TO BE LOCATED AT MINIMUM DISTANCE FROM 115-D-201.
- TWO PHASES FLOW LINES, NEED FOR REINFORCED ANCHORING.
- FOR FILTER ARRANGEMENT REFER TO TABLE "A" ON PID-1718-999-0030-0006
- ON LOW FLOW DUTY PUMP IS STOPPED AND STANDBY PUMP STARTED.
IF AFTER 30 SECONDS FLOW REMAINS LOW LOW, BOTH PUMPS ARE TRIPPED.
- LAHH-0008 IS ALARM ONLY.
- SDV-0005 CLOSED INDICATION TRIPS C4 WATER CIRCULATION PUMPS
- 115-P-201A/B WHEN RUNNING.
- PSV, PULSATION DAMPENER AND ALL OTHER REQUIRED ACCESSORIES (AS PER PROJECT SPECIFICATION) SHALL BE SUPPLIED BY PUMP VENDOR.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1152 FFFF NNNN

HOLDS

- DELETED.
- DELETED.
- DELETED.

THIS P&ID IS BASED ON DRAWING NO. 115-SPD-26 SUPPLIED BY AXENS.

EQUIPMENT LIST

DRUM	MIXER	PUMPS
115-D-201	115-M-201	115-P-201A/B 115-P-204A/B

UTILITY PID NUMBER

DC	PID-1718-186-0040-0205
DR	PID-1718-186-0040-0205
FS18	PID-1718-186-0040-0204
SC	PID-1718-186-0040-0205

REV	DATE	DESCRIPTION	ORIGI	PRPD	CHD	APP'D	AUTH'D
4	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
3	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MMH	SM	RM
2	06/02/11	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
1	12/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
0	09/02/10	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP

SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18
ASSALUYEH-IRAN
ONSHORE FACILITIES



PROJECT No: POGC-84-801-244

DOC. CLASS

1

SCALE:

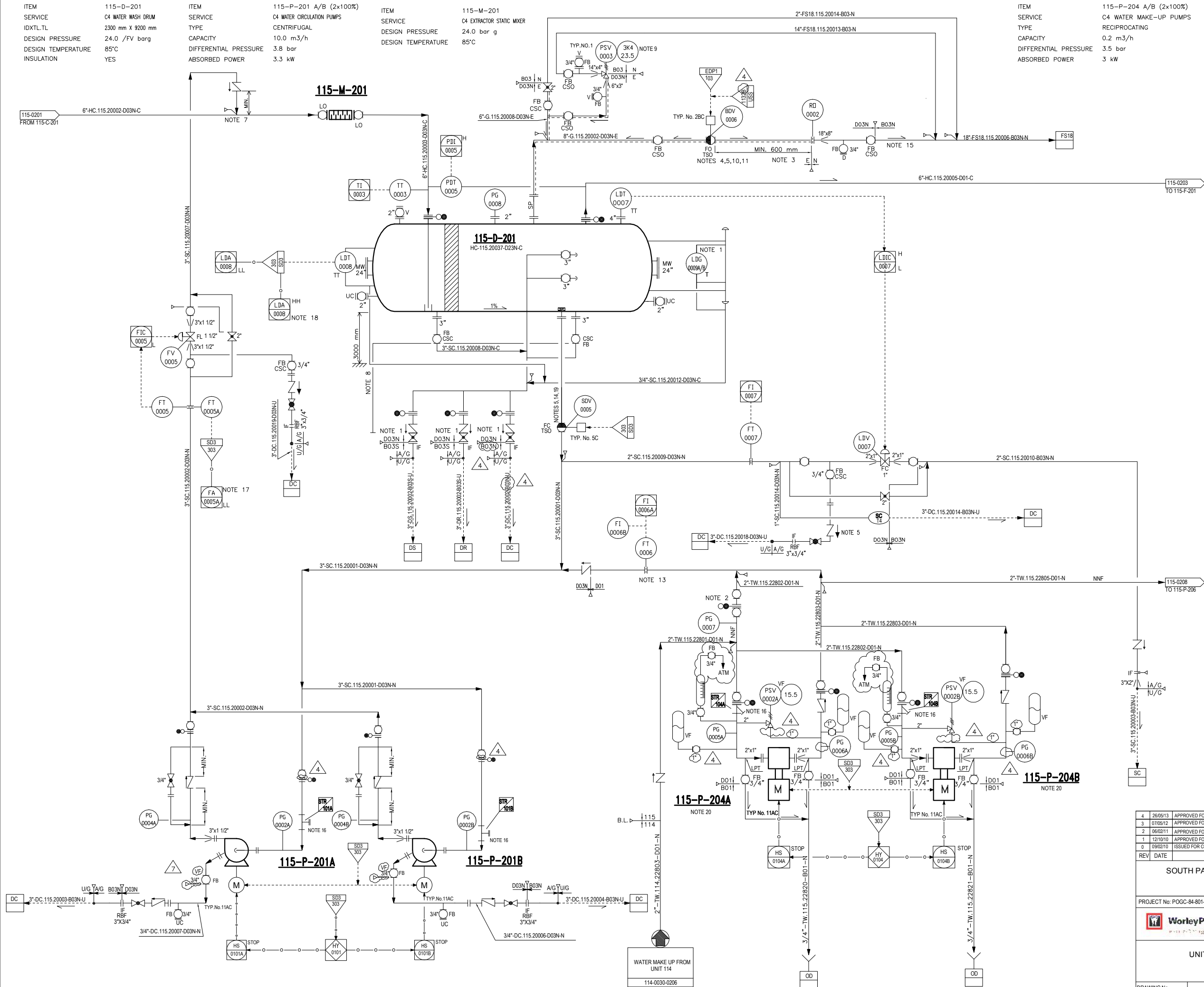
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UNIT 115: BUTANE TREATMENT AND DRYING - PHASE 18
WATER WASH DRUM (TRAIN 2)
PIPING AND INSTRUMENT DIA/GRAM

DRAWING No. PID-1718-115-0030-0202

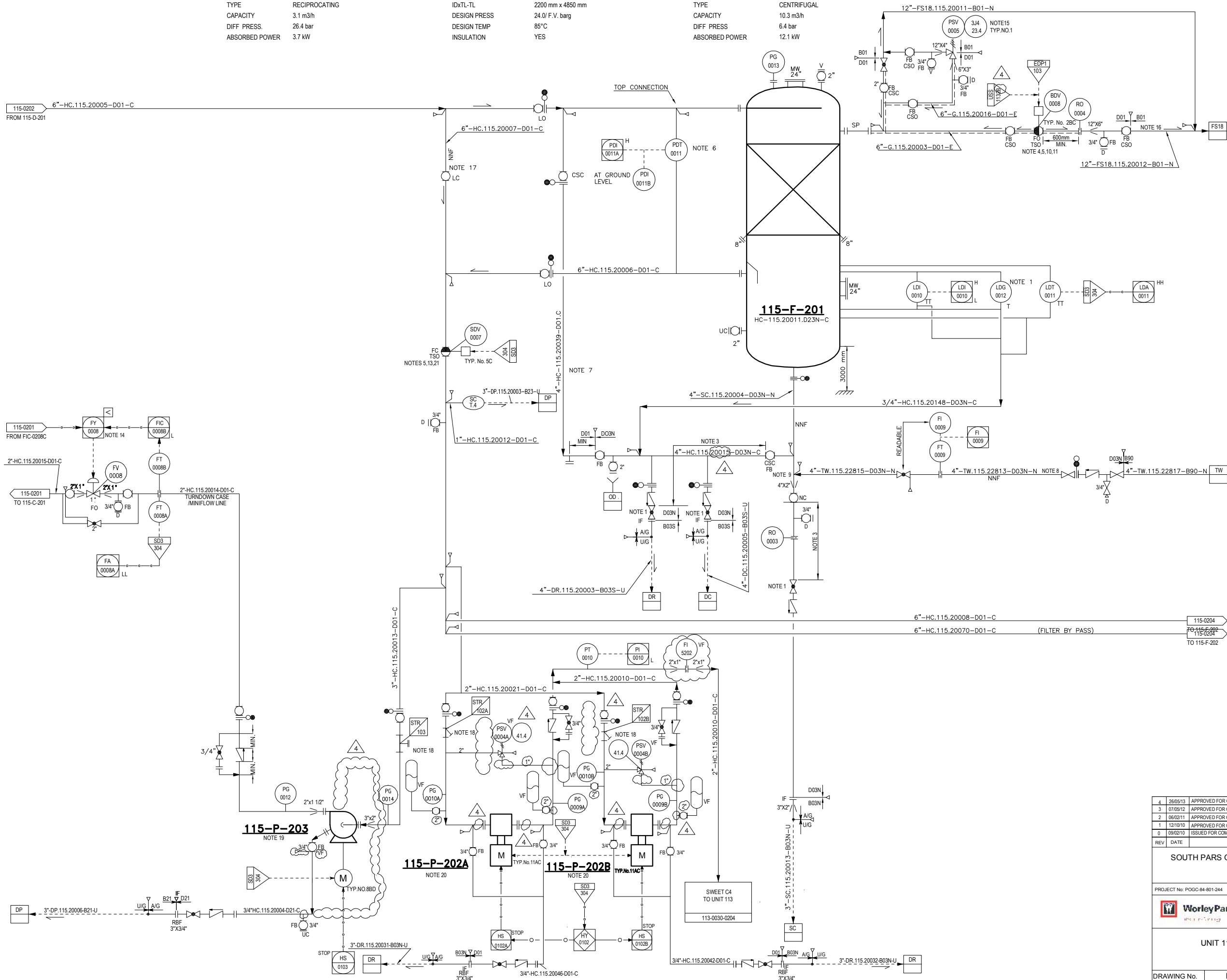
REVISION 4



ITEM 115-P-202 A/B (2x100%)
SERVICE SWEET C4 PUMPS
TYPE RECIPROCATING
CAPACITY 3.1 m3/h
DIFF. PRESS. 26.4 bar
ABSORBED POWER 3.7 kW

ITEM 115-F-201
SERVICE C4 SAND FILTER
TYPE IDxTL-TL
DESIGN PRESS 2200 mm x 4850 mm
DESIGN TEMP 24.0/ F.V. barg
INSULATION 85°C
YES

ITEM 115-P-203
SERVICE C4 TURNDOWN PUMP
TYPE CENTRIFUGAL
CAPACITY 10.3 m3/h
DIFF. PRESS 6.4 bar
ABSORBED POWER 12.1 kW



NOTES

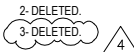
- LDG ON 115-F-201 TO BE READABLE FROM GLOBE VALVES ON DRAIN LINES.
- SAND BED.
- PRESENCE OF C4. POSSIBILITY OF FREEZING VALVES IN CASE OF MISOPERATION. MINIMUM DISTANCE BETWEEN 2 VALVES SHALL BE 600 mm.
- VALVE EQUIPPED WITH AIR RESERVE.
- FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC., WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
- LOCATE DELTA P CELL AT LOW POINT. SELF DRAINING LEGS.
- FILTER BACK-WASH DRAIN PIPING.
- FOR SAND FILTER BACK-WASHING.
- CONNECTION ON TOP OF THE LINE.
- AIR RESERVE TO BE SIZED TO BE ABLE TO COMMAND FOR 3 STROKES VALVE OPERATING DURING AIR INSTRUMENT FAILURE.
- VALVE LOCATED AT HIGH POINT
- DELETED.
- ISOLATION VALVE TO BE LOCATED AT MINIMUM DISTANCE FROM 115-F-201.
- SEE SPECIAL LOOP DESCRIPTION IN SECTION 4 OF PROCESS DATA BOOK.
- SPARE RELIEF VALVE STORED IN WAREHOUSE.
- TWO PHASES FLOW LINE NEED FOR REINFORCED ANCHORING.
- SAND FILTER BY-PASS FOR MAINTENANCE.
- FOR FILTER ARRANGEMENT REFER TO TABLE "A" ON PID-1718-999-0030-0006.
- OPERATOR TO START THE PUMP WHEN IT IS NECESSARY.
- PSV, PULSTION DAMPENER AND ALL REQUIRED ACCESSORIES (AS PER PROJECT SPECIFICATION) SHALL BE SUPPLIED BY PUMP VENDOR.
- SDV-0007 CLOSED INDICATION TRIPS C4 TURN DOWN PUMP PUMP 115-P-202A/B AND 115-P-203 WHEN RUNNING.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1152 FFFF NNNN

HOLDS

- DELETED.
- DELETED.
- DELETED.



THIS P&ID IS BASED ON DRAWING NO. 115-SPD-3/6 SUPPLIED BY AXENS.

EQUIPMENT LIST

FILTER	PUMP		
115-F-201	115-P-202A/B		
	115-P-203		

UTILITY PID NUMBER

FS18	PID-1718-186-0040-0204	DC	PID-1718-186-0040-0205
DP	PID-1718-186-0040-0205	DR	PID-1718-186-0040-0205
TW	PID-1718-186-0040-0203	SC	PID-1718-186-0040-0205

4	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
3	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MM	SM	RM
2	06/02/11	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
1	12/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
0	09/02/10	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP
REV	DATE	DESCRIPTION	ORIGI	PRPD	CHD	APPD	AUTHD

SOUTH PARS GAS FIELD DEVELOPMENT P HASES 17&18
ASSALUYEH-IRAN
ONSHORE FACILITIES



PROJECT No: POGC-84-801-244

DOC. CLASS 1 SCALE: N/A



UNIT 115: BUTANE TREATMENT AND DRYING - PHASE 18
FILTRATION SECTION (TRAIN 2)
PIPING AND INSTRUMENT DIA/GRAM

DRAWING No.	PID-1718-115-0030-0203	REVISION	4
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ITEM 115-F-202
SERVICE C4 SAND GUARD FILTER
DESIGN PRESS 24.0 bar g
DESIGN TEMP 85°C

ITEM 115-E-202
SERVICE C4 MOLECULAR SIEVES FEED/EFFLUENT EXCHANGER
TYPE AEU OR BEU
DUTY / SURFACE 0.426 MW / 20.1 m²
SHELL 12.9 bar g
DESIGN PRESS 200°C
INSULATION H

ITEM 115-H-201
SERVICE C4 MOLECULAR SIEVES REGENERATION ELECTRICAL HEATER
DUTY 504.2 kW
DESIGN PRESS 11.7 bar g
DESIGN TEMP 340°C

NOTES

- 1 - INSTRUMENTS AND CONTROL SYSTEM FOR EACH HEATER PASS WILL BE FINALIZED AFTER RECEIVING VENDOR DATA.
- 2 - RAMP OPERATION IS REQUIRED.
- 3 - VOTING SYSTEM. SD3 IS ACTIVATED BY AT LEAST TWO TSHH.
- 4 - TA-0021 LOW TEMPERATURE IS ALARM ONLY.
- 5 - FA-0021 HIGH FLOW IS ALARM ONLY.
- 6 - IF THE ADSORPTION PHASE END, BEFORE REGENERATION PHASE IS FINISHED, THESE QUENCH IS STOPPED AND UNIT 115 WILL BE SHUTDOWN.
- 7 - IN CASE OF HEATER TRIP, ALL VALVES IN REGENERATION CYCLE TO BE CLOSED.

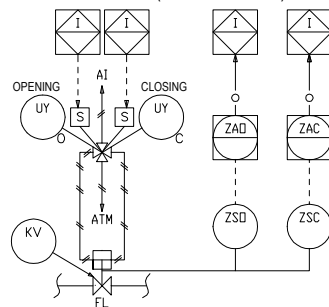
HOLDS

- 1 - DELETED.
- 2 - CONTROL VALVE AND BYPASS VALVE SIZE.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1152 FFFF NNNN

DETAIL A (ON/OFF VALVE)



THIS P&ID IS BASED ON DRAWING NO. 115-5PD-4/6 SUPPLIED BY AXENS.

EQUIPMENT LIST

EXCHANGER	FILTER	HEATER
115-E-202	115-F-202	115-H-201

UTILITY PID NUMBER

FB18	PID-1718-186-0040-0204
DP	PID-1718-186-0040-0205

REV	DATE	DESCRIPTION	CRG	PRPD	CHD	APP'D	AUTH'D
4	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
3	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MMH	SM	RM
2	06/02/11	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
1	12/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
0	09/02/10	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP

SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18
ASSALUYEH-IRAN
ONSHORE FACILITIES



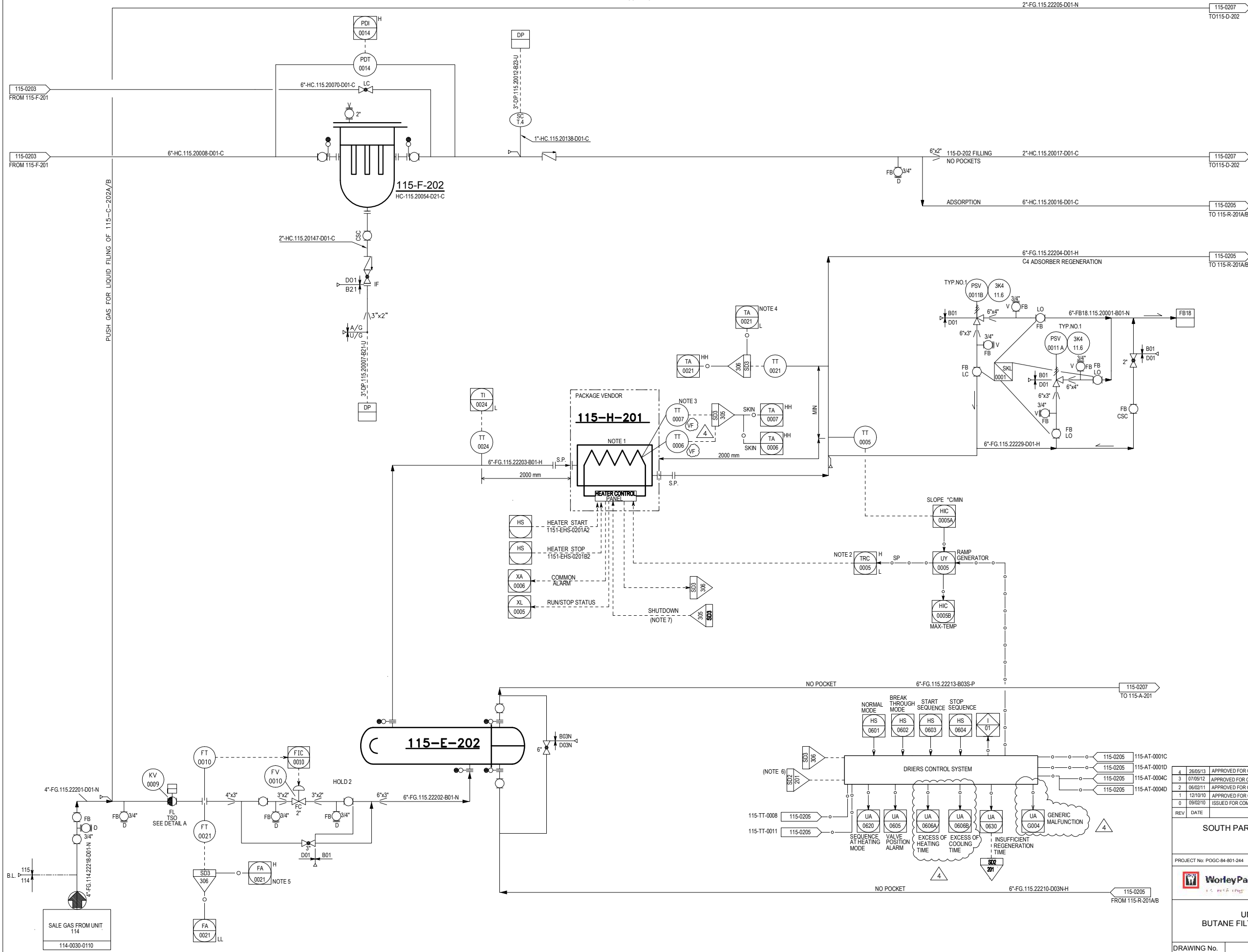
PROJECT No: POGC-84-801-244

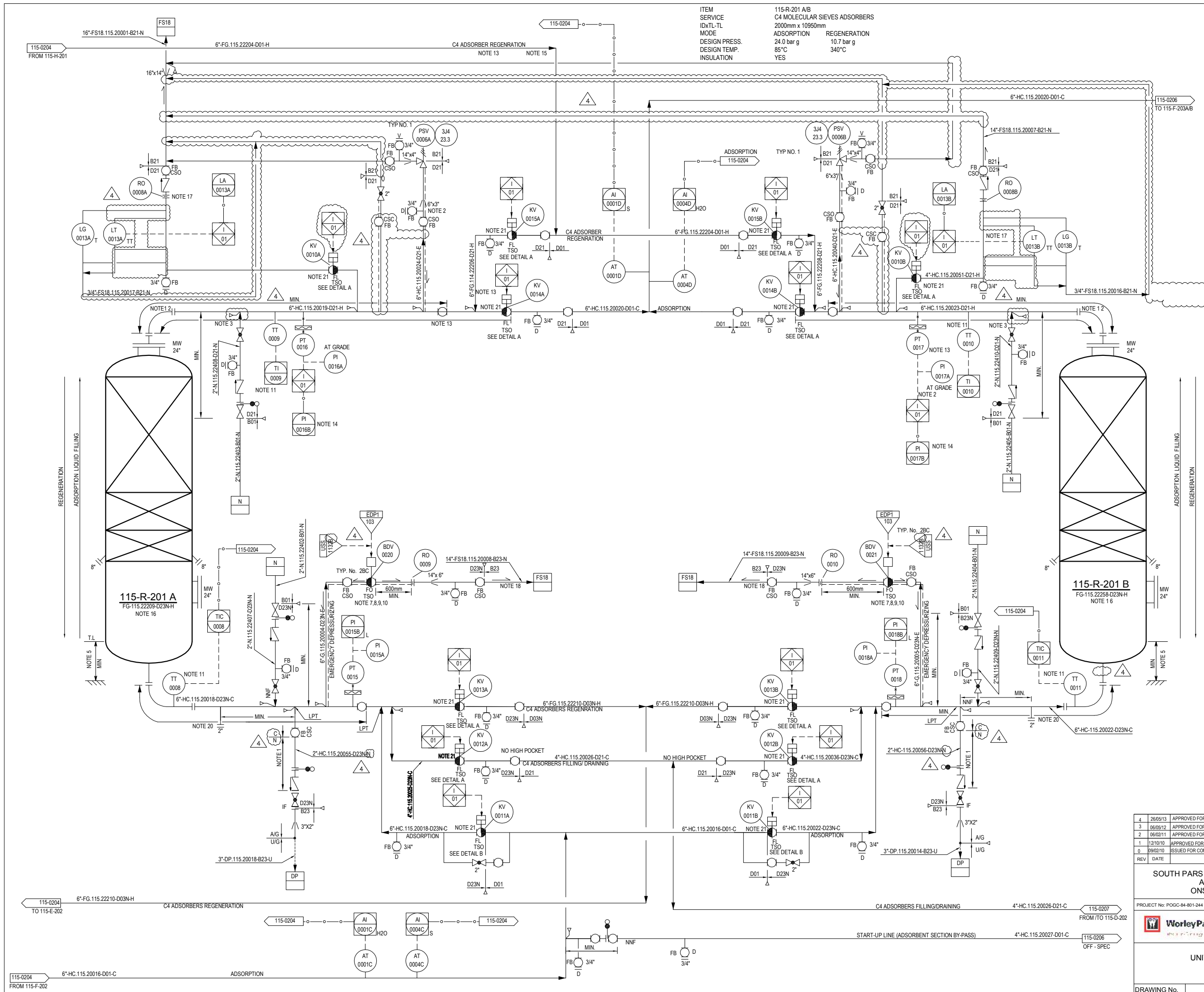
DOC. CLASS 1 SCALE: N/A

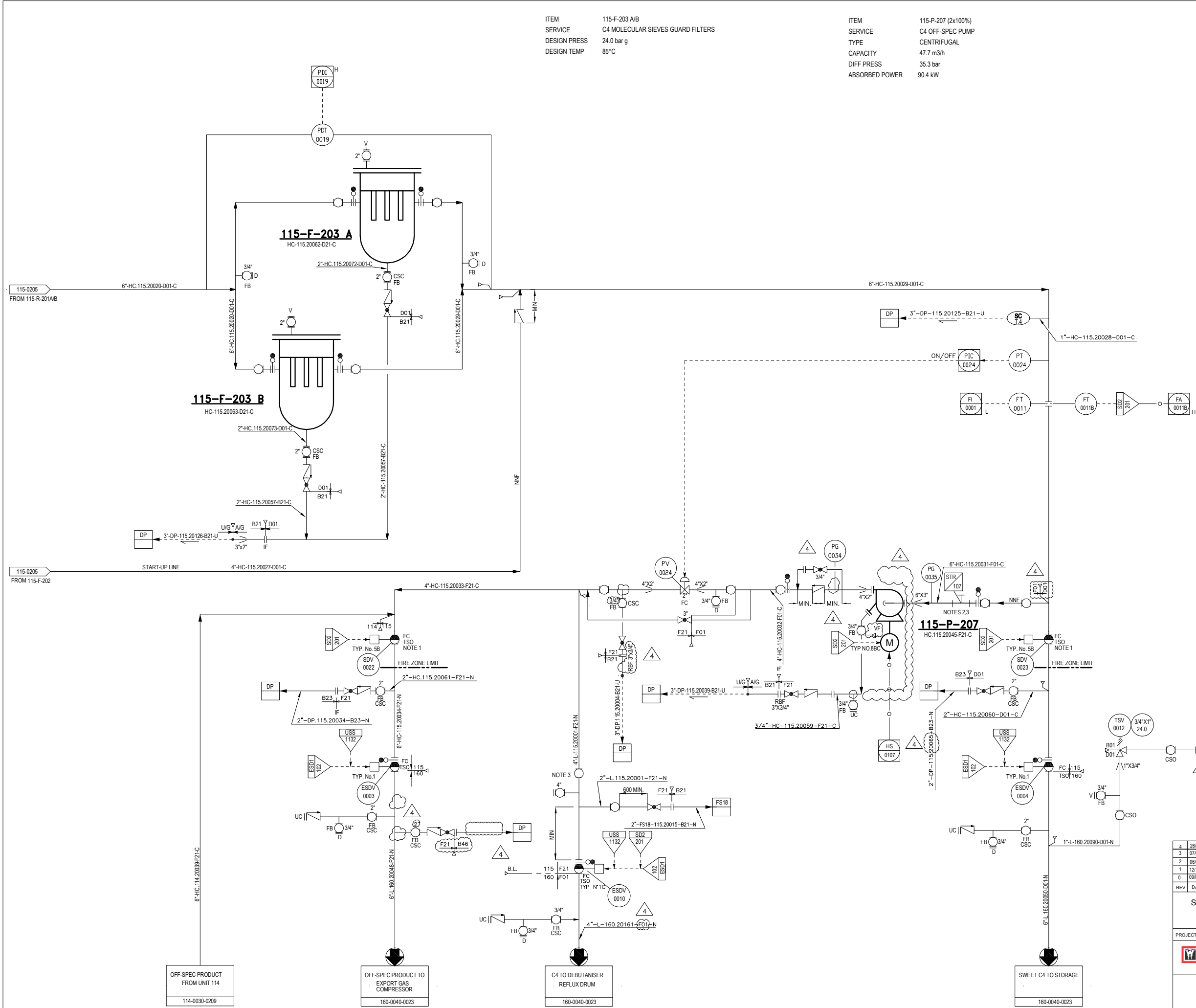


UNIT 115: BUTANE TREATMENT AND DRYING
BUTANE FILTRATION & REGENERATION ELECTRICAL HEATER (TRAIN 2)
PIPING AND INSTRUMENT DIAGRAM

DRAWING No. PID-1718-115-0030-0204 REVISION 4







- NOTES**
- 1- FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC., WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
 - 2- FOR FILTER ARRANGMENT REFER TO TABLE "A" ON PID-1718-999-0030-0006.
 - 3- SUCTION AND DISCHARGE CONNECTIONS ARE FOR STATR-UP.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1152 FFFF NNNN

- HOLDS**
- 1- DELETED.
 - 2- DELETED.

THIS P&ID IS BASED ON DRAWING NO. 115-SPD-6/6 SUPPLIED BY AXENS.

EQUIPMENT LIST			
FILTER	PUMP		
115-F-203A/B	115-P-207		

UTILITY PID NUMBER	
DP	PID-1718-186-0040-0205
FS18	PID-1718-186-0040-0204

REV	DATE	DESCRIPTION	ORIGI	PRPD	CHD	APPD	AUTHD
4	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
3	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MMH	SM	RM
2	06/02/11	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
1	12/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
0	09/02/10	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP

SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18 ASSALUYEH-IRAN ONSHORE FACILITIES				POGC
PROJECT No: POGC-84-801-244		DOC. CLASS	1	SCALE: N/A
UNIT 115: BUTANE TREATMENT AND DRYING C4 PRODUCT EXPORT SECTION PIPING AND INSTRUMENT DIA/GRAM				
DRAWING No.	PID-1718-115-0030-0206			REVISION 4

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ITEM	115-D-202	ITEM	115-A-201
SERVICE	ADSORBERS DRAINING/FILLING DRUM	SERVICE	REGENERATION GAS CONDENSER
IDxTL-TL	2300mm x 6850mm	DUTY/SURFACE	0.334 MW/23 m2
DESIGN PRESS	12.6/F.V. barg	DESIGN PRESS	10.7 barg
DESIGN TEMP	85°C	DESIGN TEMP	200°C
INSULATION	YES	INSTALLED POWER	11 KW

ITEM	115-E-201	ITEM	115-D-203
SERVICE	REGENERATION GAS TRIM COOLER	SERVICE	REGENERATION K.O. DRUM
TYPE	DOUBLE PIPE	IDxTL-TL	750mm x 2300mm
DUTY/SURFACE	0.066/68 m2	DESIGN PRESS	9.1/F.V. barg
	SHELL	DESIGN TEMP	185°C
DESIGN PRESS	11.5 barg	INSULATION	NO
DESIGN TEMP	185°C		
INSULATION	N		

ITEM	115-D-203
SERVICE	REGENERATION K.O. DRUM
IDxTL-TL	750mm x 2300mm
DESIGN PRESS	9.1/F.V. barg
DESIGN TEMP	185°C
INSULATION	NO

NOTES

- 1- PRESENCE OF LPG, POSSIBILITY OF FREEZING VALVES IN CASE OF MISOPERATION MINIMUM DISTANCE BETWEEN TWO VALVES SHALL BE 600 mm.
- 2- VALVE EQUIPPED WITH AIR RESERVE.
- 3- FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES,...ETC, WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
- 4- VALVE LOCATED AT HIGH POINT.
- 5- AIR RESERVE TO BE SIZED TO BE ABLE TO COMMAND FOR 3 STROKES VALVE OPERATING DURING AIR INSTRUMENT FAILURE.
- 6- FOR SAFETY REASON.
- 7- TWO PHASES FLOW LINE, NEED FOR REINFORCED ANCHORING.
- 8- PIC HAS TWO SET POINTS: ONE FOR DRAINING PHASE AND ONE FOR FILLING PHASE.
- 9- RISING STEM BALL VALVE.
- 10- NUMBER OF AIR COOLER BAYS IS 1.

GENERAL NOTES

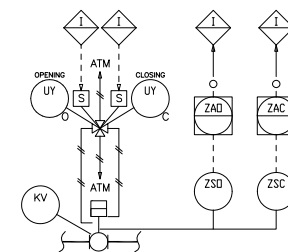
ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER

1152 FFF NNNN

HOLDS

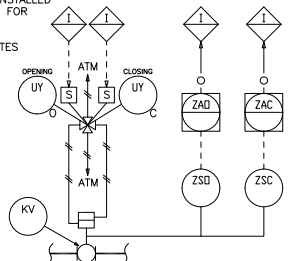
- 1- DELETED.
- 2- DELETED.
- 3- DELETED.

DETAIL A (ON/OFF VALVE)



DETAIL B (RAMP OPENING VALVE)

A RAMP SHALL BE INSTALLED ON THE AIR CIRCUIT FOR OPENING POSITION. (CLOSED TO OPEN POSITION IN 2 MINUTES APPROXIMATELY)



THIS P&ID IS BASED ON DRAWING NO. 115-5PD-7/8 SUPPLIED BY AXENS.

DRUM	EXCHANGER	AIR COOLER
115-D-202	115-E-201	115-A-201
115-D-203		

UTILITY PID NUMBER

FB18	PID-1718-186-0040-0204	FS18	PID-1718-186-0040-0204
SW	PID-1718-186-0040-0203	DS	PID-1718-186-0040-0205
DR	PID-1718-186-0040-0205		

REV	DATE	DESCRIPTION	ORIGI	PRPD	CHD	APPD	AUTHD
4	26/05/13	APPROVED FOR CONSTRUCTION	OIEC	SD	SM	SM	RM
3	07/05/12	APPROVED FOR CONSTRUCTION	OIEC	SM	MMH	SM	RM
2	06/02/11	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
1	12/10/10	APPROVED FOR CONSTRUCTION	OIEC	SM	MA	MMF	AAP
0	09/02/10	ISSUED FOR COMMENT	OIEC	SM	MA	MMF	AAP

SOUTH PARS GAS FIELD DEVELOPMENT PHASES 17&18 ASSALUYEH-IRAN ONSHORE FACILITIES

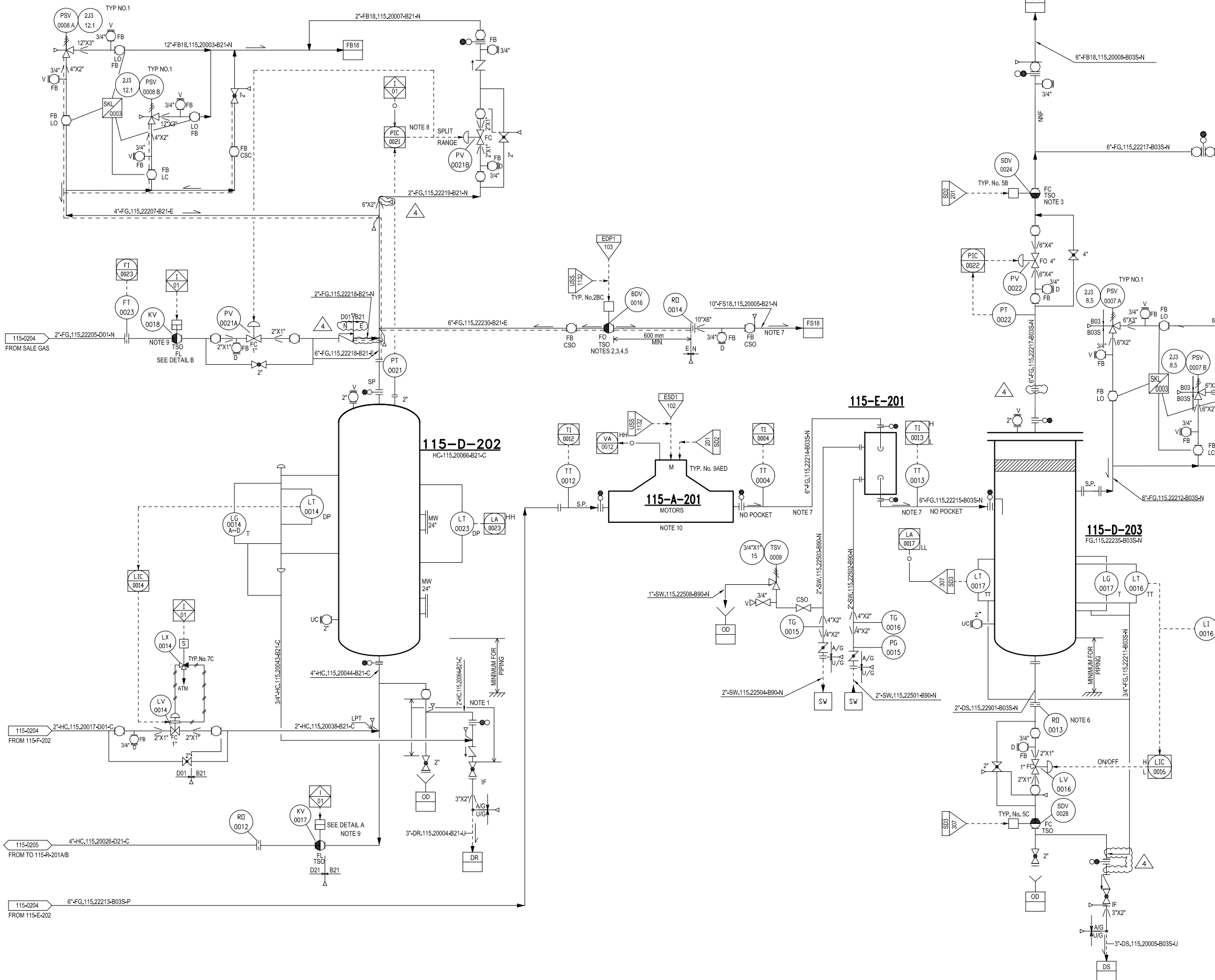


PROJECT No: POGC-84-801-244 DOC. CLASS 1 SCALE: N/A

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UNIT 115: BUTANE TREATMENT AND DRYING REGENERATION COOLING SECTION (TRAIN 2) PIPING AND INSTRUMENT DIAGRAM

DRAWING No.	PID-1718-115-0030-0207	REVISION	4
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ITEM
SERVICE
TYPE
CAPACITY
DIFF. PRESS.
ABSORBED POWER

115-P-206 A/B (2x100%)
WATER CIRCULATION PUMPS
CENTRIFUGAL
91 m³/h
2.1 bar
1.7kw

ITEM
SERVICE
TYPE
DUTY/SURFACE
DESIGN. PRESS.
DESIGN. TEMP.
INSULATION

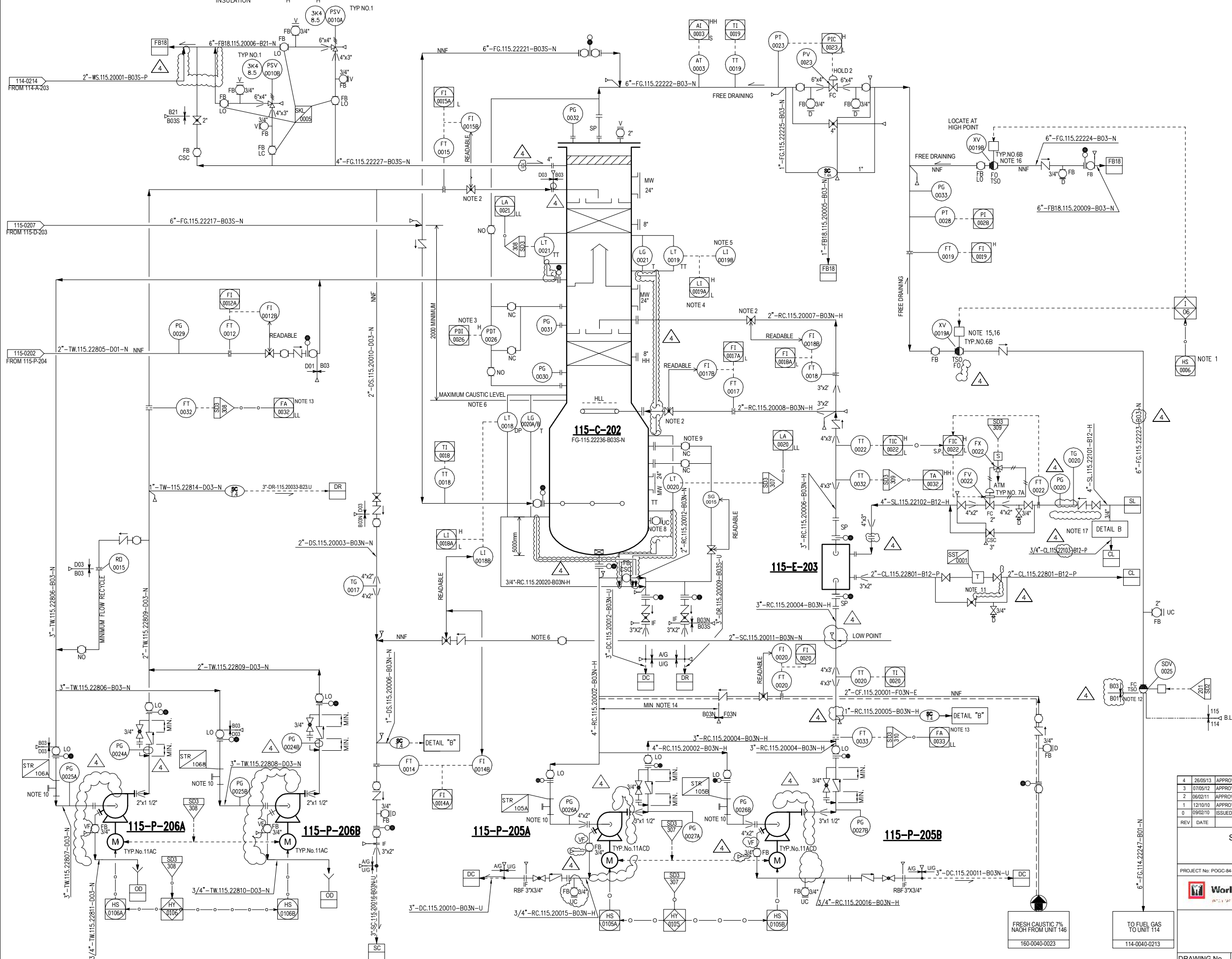
115-E-203
CAUSTIC RECYCLE HEATER
DOUBLE PIPE
0.347 MW/6.2 m²
SHELL TUBE
14.3barg 11.0 barg
85°C 270°C
H H

ITEM
SERVICE
IDXTLTL
DESIGN. PRESS.
DESIGN. TEMP.
INSULATION

115-C-202
C4 CAUSTIC SCRUBBER
TOP:800mmx12000mm
BOTTOM:2400mmx3800mm
8.5 barg TOP/9.4 barg BOT/FV
85°C
YES

ITEM
SERVICE
TYPE
CAPACITY
DIFF. PRESS.
ABSORBED POWER

115-P-205 A/B (2x100%)
CAUSTIC CIRCULATION PUMPS
CENTRIFUGAL
13.6m³/h
3.5 bar
4.7kW



NOTES

- 1- OPERATOR SHOULD BE ABLE TO SWITCH FROM FUEL GAS TO FLARE DURING NORMAL OPERATION IN CASE OF SCRUBBER UPSET.
- 2- VALVE WITH MECHANICAL LIMIT STOP (IN ORDER TO AVOID FULL CLOSURE OF VALVE)
- 3- INSTRUMENT SHALL BE SELF-DRAINING.
- 4- HLL MUST BE DEFINED AT CHIMNEY TOP. TOWER WILL BE OPERATED UNDER AT HLL/HIGH LIQUID LEVEL.
- 5- LI TO BE READABLE FROM GLOBE VALVE ON DEMINERALIZED WATER.
- 6- FOR CAUSTIC INVENTORY REMOVAL OPERATION.
- 7- DELETED.
- 8- NO STEAM-OUT IS ALLOWED IF CAUSTIC SODA IS NOT PROPERLY REMOVED FROM SCRUBBER.
- 9- FOR HC PHASE DRAINING SKIMMING.
- 10- FOR FILTER ARRANGEMENT REFER TO TABLE "A" ON PID-1718-999-0030-0006.
- 11- STEAM TRAP.
- 12- FIRE RESISTANT VALVE (ALL INSTRUMENTS, BOX PROTECTION, TUBING, CABLES, ETC., WILL BE SELECTED AND CLASSIFIED ACCORDING TO THIS PROTECTION).
- 13- ON LOW FLOW FLOW DUTY PUMP IS STOPPED AND STANDBY PUMP STARTED IF AFTER 30 SECONDS FLOW REMAINS LOW, PUMPS ARE TRIPPED.
- 14- DISTANCE TO BE MINIMIZED.
- 15- A RAMP SHALL BE INSTALLED ON THE AIR CIRCUIT FOR OPENING AND CLOSING POSITIONS (CLOSE TO OPEN IN 2 MINUTES APPROXIMATELY. OPENING AND CLOSING TIME BE TUNABLE IN ORDER TO BE ADJUSTED ON SITE.)
- 16- RISING STEM BALL VALVE.
- 17- DRIP LEG. FOR DETAIL "A" REFER TO PID-1718-186-0040-0001.

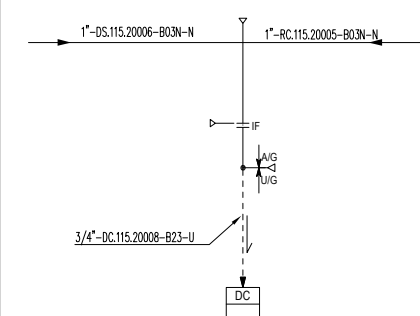
HOLDS

- 1- DELETED.
- 2- DELETED.
- 3- DELETED.

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:
LETTERS NUMBER
1152 FFF NNNN

DETAIL "B"



EQUIPMENT LIST

COLUMN	PUMPS	EXCHANGER
115-C-202	115-P-205A/B 115-P-206A/B	115-E-203

UTILITY PID NUMBER

DC	PID-1718-186-0040-0205	SL	PID-1718-186-0040-0201
DR	PID-1718-186-0040-0205	CL	PID-1718-186-0040-0201
FB18	PID-1718-186-0040-0204		
SC	PID-1718-186-0040-0205		

REV	DATE	DESCRIPTION	ORIGI	PRPDR	CHD	APPR	AUTHD
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**SOUTH PARS GAS FIELD DEVELOPMENT
PHASES 17&18 ASSALUYEH-IRAN
ONSHORE FACILITIES**

PROJECT NO: POGC-84-801-244

DOC. CLASS 1 SCALE: N/A

WorleyParsons **IDRO** **OIEC** **IOEC**

**UNIT 115: BUTANE TREATMENT AND DRYING
CAUSTIC SCRUBBER (TRAIN 2)
PIPING AND INSTRUMENT DIAGRAM**

DRAWING No. PID-1718-115-0030-0208

REVISION 4