

NOTE:

01. THE GROUP & UNIT CODE ON DRAWING SHOW "00" FOR COMMON PACKAGE THEREFORE, CONSIDER "11" FOR UNIT 1, "12" FOR UNIT 2, "13" FOR UNIT 3.

02. SCOPE

VENDOR | EPC V : BHI
 E : EPC

03. CODE LIMIT PIPING

A : BOILER PROPER
B : BEP
C : NECP

04. CCC : CHEMICAL CLEANING CONNECTION

05. [X] : CONNECTION FOR VENT FUNNEL DRAIN

06. [L] : LOCAL MAINTENANCE DRAIN FOR VISUAL CHECK

07. THE SCOPE OF THESE PITs AND RELATED ITEMS AS BELOW

- HOOK UP DESIGN : BY BHI
- STANCHION LOCATION DESIGN : BY SECCO III
- IO LIST : BY SEPCO III
- VFD CONTROL LOGIC : BY SEPCO III
- HOOK UP MATERIALS, STANCHION, CONDUIT, CABLES ETC SUPPLY BY SEPCO III
- PIPING MATERIAL, PIPE, FITTING, VALVE BY SEPCO III
- PIPING ROUTING INFORMATION : BY BHI

REFERENCE DRAWINGS:

DRAWING NO.	DRAWING TITLE

HOLD LIST:

REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED

PROJECT : PP12 CCPP EXPANSION PROJECT

PRINCIPAL BUYER : SAUDI POWER PROCUREMENT COMPANY

PROJECT COMPANY : SAUDI ELECTRICITY COMPANY

PROJECT COMPANY'S CONSULTANT : FICHTNER FICHTNER GMBH & Co. KG

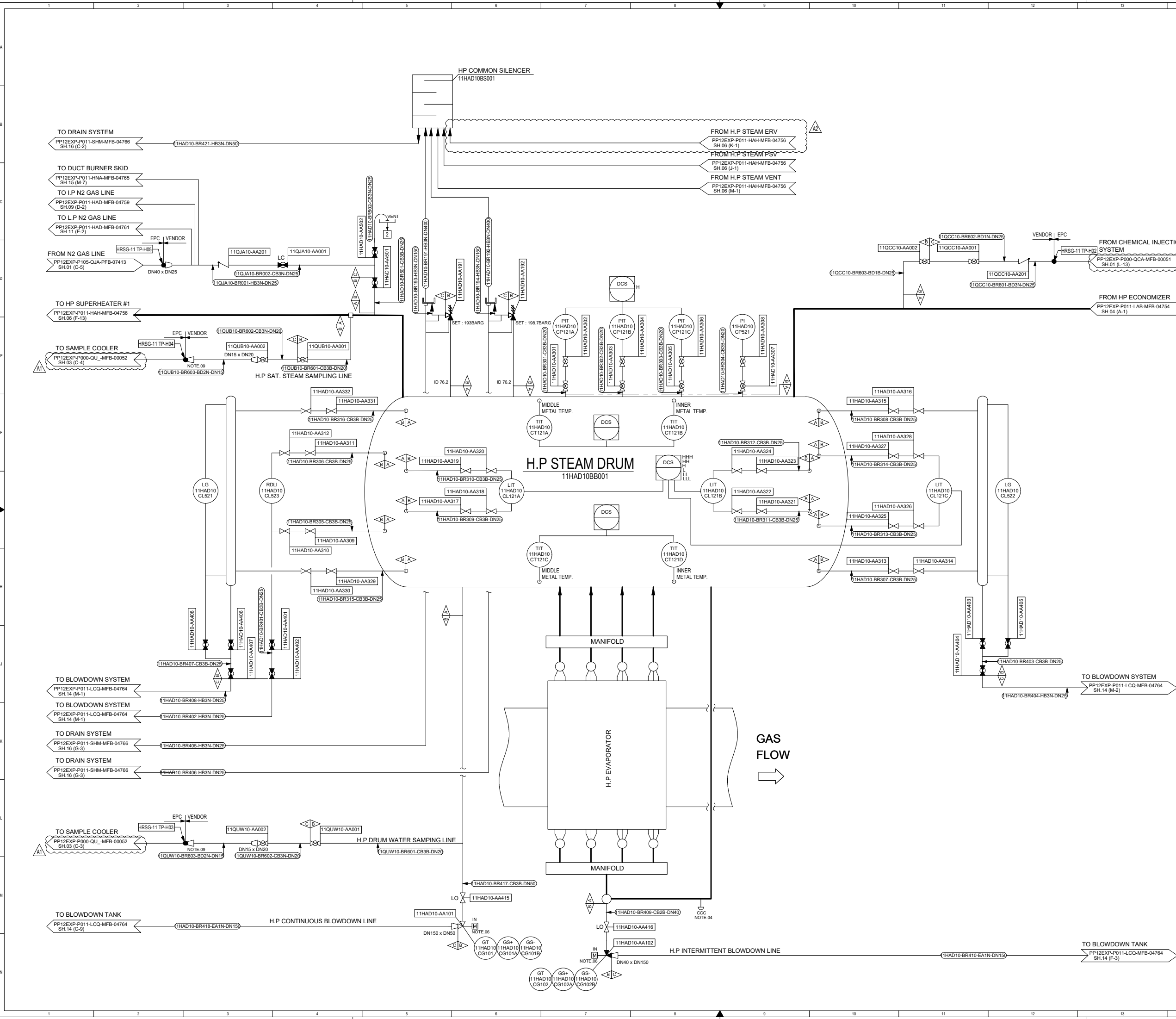
EPC CONTRACTOR CONSORTIUM : SEPCO III ELECTRIC POWER CONSTRUCTION CO. LTD. DOOSAN ENERLITY

SUB SUPPLIER : BHI CO., LTD.

DATE	NAME	TITLE
07-MAR-25	KJLEE	
07-MAR-25	KJLEE	
07-MAR-25	WJCHOI	
07-MAR-25	SHYOO	

HRSG P&I DIAGRAM FOR H.P. FEED WATER SYSTEM

ORG. NO.: PP12EXP-P011-LAB-MFB-04754 SCALE: None SHT: 04 OF 18 REV: A2



NOTE:

01. THE GROUP & UNIT CODE ON DRAWING SHOW "00" FOR COMMON PACKAGE THEREFORE, CONSIDER "11" FOR UNIT 1, "12" FOR UNIT 2, "13" FOR UNIT 3.

02. SCOPE

VENDOR | EPC V : BHI
 E : EPC

03. CODE LIMIT PIPING

A : BOILER PROPER
B : BEP
C : NBEF

04. CCC : CHEMICAL CLEANING CONNECTION

05. □ : STEAM SAMPLING NOZZLE

06. LOCATE HRSG DRUM INTERMITTENT AND CONTINUOUS BLOWDOWN VALVES AS CLOSE AS PRACTICAL TO BLOWDOWN TANK.

07. [X] : CONNECTION FOR VENT FUNNEL DRAIN

08. [Symbol] : LOCAL MAINTENANCE DRAIN FOR VISUAL CHECK

09. IT SHALL BE COMPATIBLE FOR TUBE CONNECTION.
(BOP TUBE SIZE : 12.7mm (1/2"))

REFERENCE DRAWINGS:

DRAWING NO.	DRAWING TITLE

HOLD LIST:

REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED

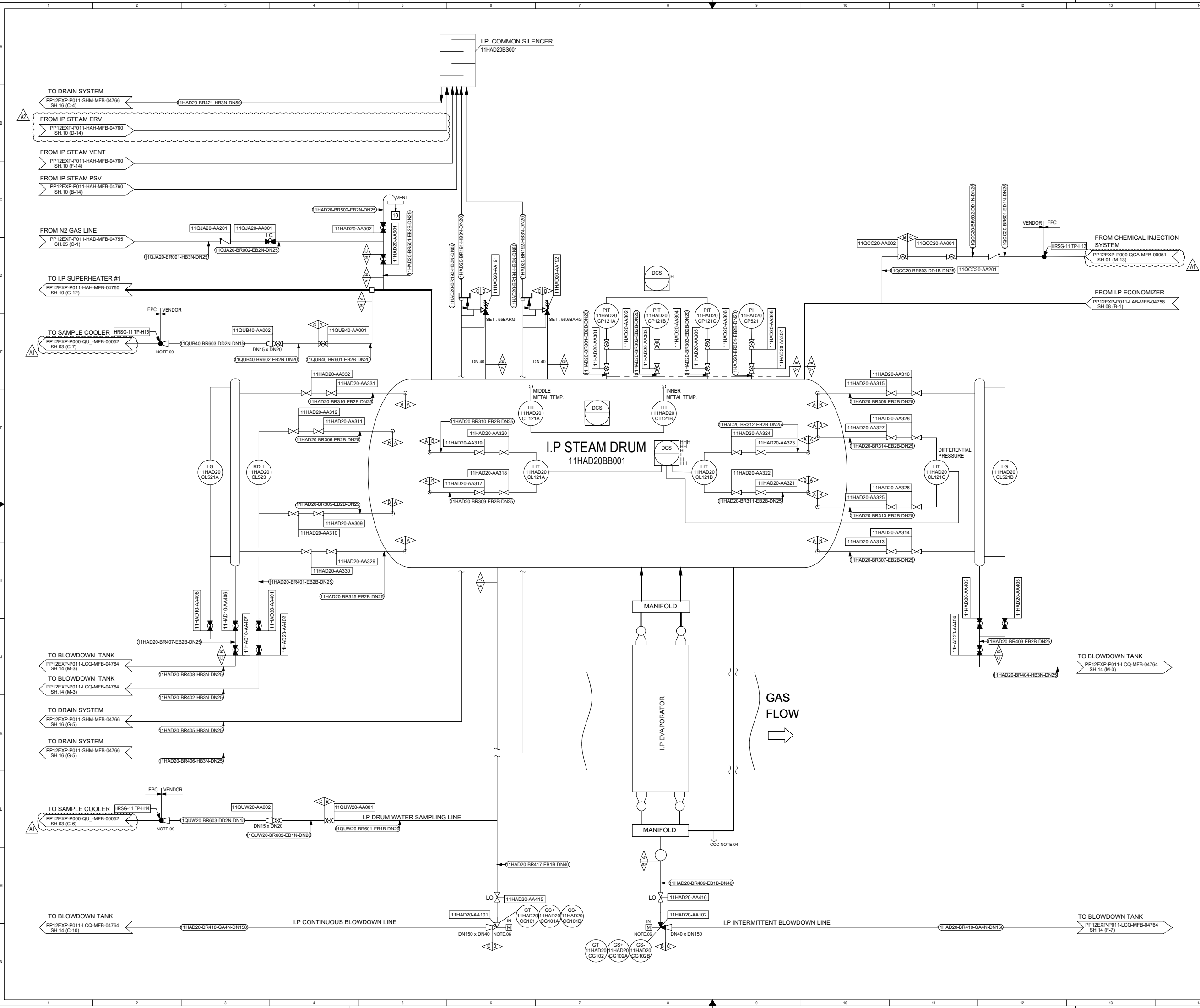
PROJECT : PP12 CCPP EXPANSION PROJECT

PRINCIPAL BUYER:	SAUDI POWER PROCUREMENT COMPANY
PROJECT COMPANY:	SAUDI ELECTRICITY COMPANY
PROJECT COMPANY'S CONSULTANT:	FICHTNER FICHTNER GMBH & Co. KG
EPC CONTRACTOR CONSORTIUM:	SEPCO III ELECTRIC POWER CONSTRUCTION CO. LTD. DOOSAN ENERBILITY
SUB SUPPLIER:	DOOSAN CO., LTD.

DATE	NAME	TITLE:
07-MAR-25	KJLEE	HRSG P&I DIAGRAM FOR H.P. STEAM DRUM SYSTEM
07-MAR-25	KJLEE	
07-MAR-25	WJCHOI	
07-MAR-25	SHYOO	

DRG. NO.: PP12EXP-P011-HAD-MFB-04755 SCALE: None SHT. 05 OF 18 REV. A2

As 11 (8mm x 84mm)



NOTE :

01. THE GROUP & UNIT CODE ON DRAWING SHOW "11" FOR UNIT 1.
THEREFORE, CONSIDER "12" FOR UNIT 2, "13" FOR UNIT 3.

02. SCOPE

VENDOR | EPC V : BHI
 E : EPC

03. CODE LIMIT PIPING

A : BOILER PROPER
B : BEP
C : NBEF

04. CCC : CHEMICAL CLEANING CONNECTION

05. : STEAM SAMPLING NOZZLE

06. LOCATE HRSG DRUM INTERMITTENT AND CONTINUOUS BLOWDOWN AS CLOSE AS PRACTICAL TO BLOWDOWN TANK

07. : CONNECTION FOR VENT FUNNEL DRAIN (REFER TO SH.16)

08. : LOCAL MAINTENANCE DRAIN FOR VISUAL CHECK

09. IT SHALL BE COMPATIBLE FOR TUBE CONNECTION.
(COP TUBE SIZE : 12.7mm (1/2"))

REFERENCE DRAWINGS:	
DRAWING NO.	DRAWING TITLE

HOLD LIST:					
REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED

PROJECT : **PP12 CCPP EXPANSION PROJECT**

PRINCIPAL BUYER : SAUDI POWER PROCUREMENT COMPANY

PROJECT COMPANY : SAUDI ELECTRICITY COMPANY

PROJECT COMPANY'S CONSULTANT : FICHTNER GMBH & Co. KG

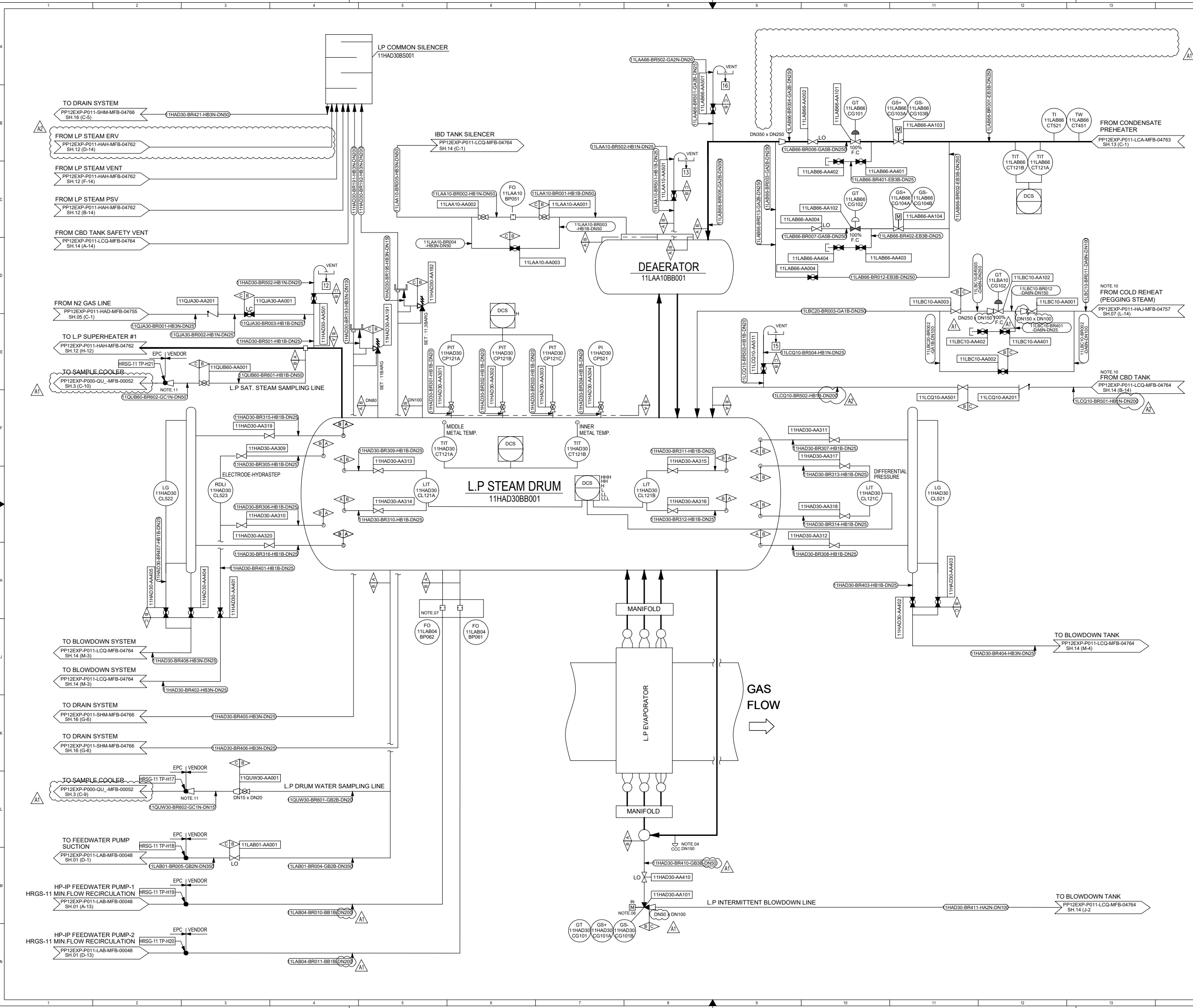
EPC CONTRACTOR CONSORTIUM : SEPCO III ELECTRIC POWER CONSTRUCTION CO. LTD. DOOSAN ENERBILITY

SUB SUPPLIER : DOOSAN ENEBRITY

DATE	NAME	TITLE:
07-MAR-25	K.J.LEE	HRSG P&I DIAGRAM FOR I.P. STEAM DRUM SYSTEM
07-MAR-25	K.J.LEE	
07-MAR-25	W.J.OHOI	
07-MAR-25	S.H.YOO	

DRG. NO. : PP12EXP-P011-HAD-MFB-04759 SCALE : None SMT. 09 OF 18 REV. A2

As 11 (8mm x 84mm)



NOTE:

01. THE GROUP & UNIT CODE ON DRAWING SHOW "11" FOR UNIT 1. THEREFORE, CONSIDER "12" FOR UNIT 2, "13" FOR UNIT 3.

02. SCOPE

VENDOR EPC V: BHI
B: BEP
E: EPC

03. CODE LIMIT PIPING

A: BOILER PROPER
B: BEP
C: NEEP

04. CCC: CHEMICAL CLEANING CONNECTION

05. □: STEAM SAMPLING NOZZLE

06. LOCATE HRSG DRUM INTERMITTENT AND CONTINUOUS BLOWDOWN AS CLOSE AS PRACTICAL TO BLOWDOWN TANK

07. THESE RESTRICT ORIFICES WILL BE SUPPLIED BY OTHERS ALSO, THEY SHALL BE LOCATED AS CLOSE AS POSSIBLE TO LP DRUM.

08. X: CONNECTION FOR VENT FUNNEL DRAIN (REFER TO SH.16)

09. LOCAL MAINTENANCE DRAIN FOR VISUAL CHECK

10. IT IS RECOMMENDED THAT VALVES TO BE LOCATED TO HIGHER POSITION THAN THE LP DRUM NOZZLE TO AVOID CONDENSATE ACCUMULATION.

11. IT SHALL BE COMPATIBLE FOR TUBE CONNECTION. (BOP TUBE SIZE: 15.8mm 5/8")

REFERENCE DRAWINGS:

DRAWING NO.	DRAWING TITLE

HOLD LIST:

REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED

PROJECT: **PP12 CCPP EXPANSION PROJECT**

PRINCIPAL BUYER:	SAUDI POWER PROCUREMENT COMPANY
PROJECT COMPANY:	SAUDI ELECTRICITY COMPANY
PROJECT COMPANY'S CONSULTANT:	FICHTNER FICHTNER GMBH & Co. KG
EPC CONTRACTOR CONSORTIUM:	SEPCO III ELECTRIC POWER CONSTRUCTION CO. LTD. DOOSAN ENERLITY
SUB SUPPLIER:	DOOSAN CO., LTD.

DATE	NAME	TITLE
07-MAR-25	K.J.LEE	
07-MAR-25	K.J.LEE	
07-MAR-25	W.J.OH	
07-MAR-25	S.H.YOO	

HRSG P&I DIAGRAM FOR L.P. STEAM DRUM SYSTEM

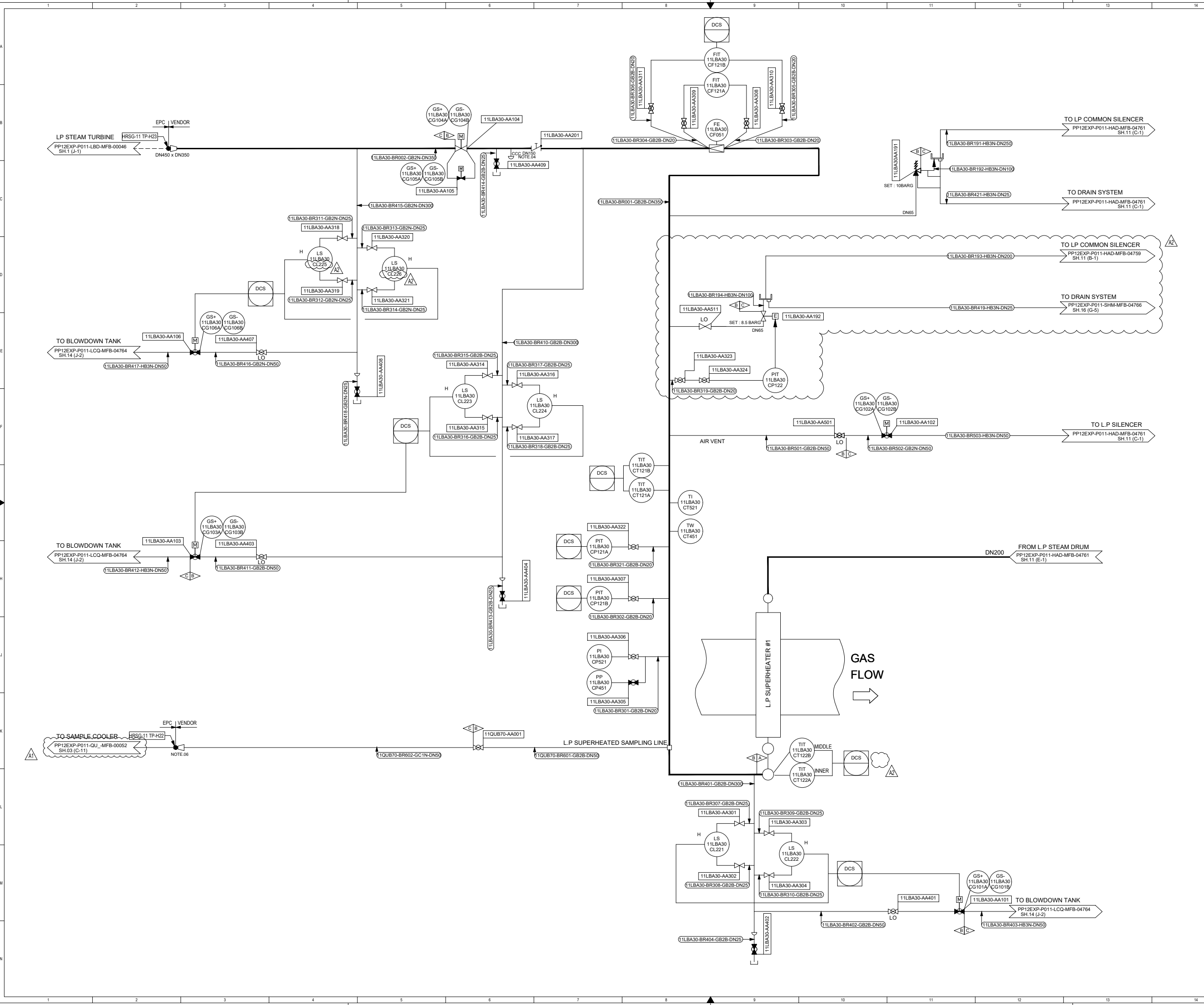
DRG. NO.: PP12EXP-P011-HAD-MFB-04761

SCALE: None

SHT: 11 OF 18

REV. A2

AS 11 (80mm x 84mm)



NOTE:

01. THE GROUP & UNIT CODE ON DRAWING SHOW "11" FOR UNIT 1.
THEREFORE, COSIDER "12" FOR UNIT 2, "13" FOR UNIT 3.

02. SCOPE

VENDOR | EPC | V : BHI
E : EPC

03. CODE LIMIT PIPING

A : BOILER PROPER
B : BEP
C : NBP

04. CCC : CHEMICAL CLEANING CONNECTION

05. : LOCAL MAINTENANCE DRAIN FOR VISUAL CHECK

06. IT SHALL BE COMPATIBLE FOR TUBE CONNECTION.
(BOP TUBE SIZE : 15.8mm 5/8")

REFERENCE DRAWINGS:

DRAWING NO.	DRAWING TITLE

HOLD LIST:

REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED

PROJECT : PP12 CCPP EXPANSION PROJECT

PRINCIPAL BUYER : SAUDI POWER PROCUREMENT COMPANY

PROJECT COMPANY : SAUDI ELECTRICITY COMPANY

PROJECT COMPANY'S CONSULTANT : FICHTNER FICHTNER GMBH & Co. KG

EPC CONTRACTOR CONSORTIUM : SEPCO III ELECTRIC POWER CONSTRUCTION CO. LTD. DOOSAN ENERBILITY

SUB SUPPLIER : DOOSAN CO., LTD.

DATE	NAME	TITLE
07-MAR-25	K.J.LEE	
07-MAR-25	K.J.LEE	
07-MAR-25	W.J.OHOI	
07-MAR-25	S.H.YOO	

HRSG P&I DIAGRAM FOR L.P SUPERHEATER SYSTEM

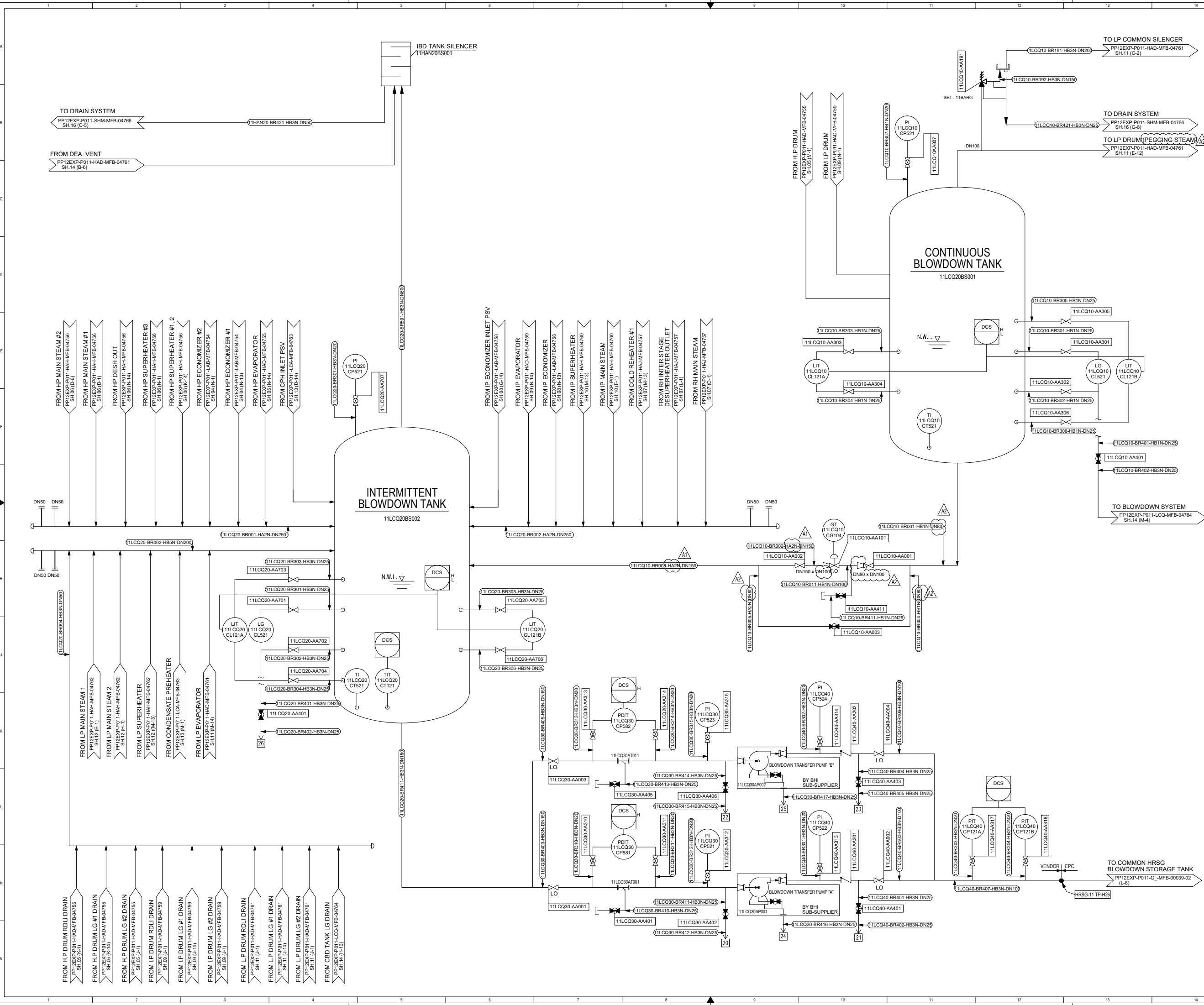
DRG. NO.: PP12EXP-P011-HAH-MFB-04762

SCALE: None

SHT: 12 OF 18

REV: A2

As 11 (8mm x 84mm)



NOTE:

- THE GROUP & UNIT CODE ON DRAWING SHOW "11" FOR UNIT 1. THEREFORE, COSIDER "12" FOR UNIT 2, "13" FOR UNIT 3.
- SCOPE
- CODE LIMIT PIPING
- CCC : CHEMICAL CLEANING CONNECTION
- LOCATE HRSG START UP AND CONTINUOUS BLOWDOWN VALVES AS CLOSE AS PRACTICAL TO BLOWDOWN TANK.
- LOCAL MAINTENANCE DRAIN FOR VISUAL CHECK

REFERENCE DRAWINGS:

DRAWING NO.	DRAWING TITLE

HOLD LIST:

REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED
A2	25-MAR-25	ISSUE FOR APPROVAL	KJLEE	WJCHOI	SHYOO
A1	28-MAR-25	ISSUE FOR APPROVAL	KJLEE	WJCHOI	SHYOO
01	27-MAR-25	ISSUE FOR APPROVAL	KJLEE	WJCHOI	SHYOO

PROJECT : PP12 CCPP EXPANSION PROJECT

PRINCIPAL BUYER : SAUDI POWER PROCUREMENT COMPANY

PROJECT COMPANY : SAUDI ELECTRICITY COMPANY

PROJECT COMPANY'S CONSULTANT : FICHTNER FICHTNER GMBH & Co. KG

EPC CONTRACTOR CONSORTIUM : SEPCO III ELECTRIC POWER CONSTRUCTION CO. LTD. DOOSAN ENERLITY

SUB SUPPLIER : BHI CO., LTD.

DATE : 07-MAR-25 NAME : KJLEE TITLE : HRSG P&I DIAGRAM FOR BLOWDOWN TANK SYSTEM

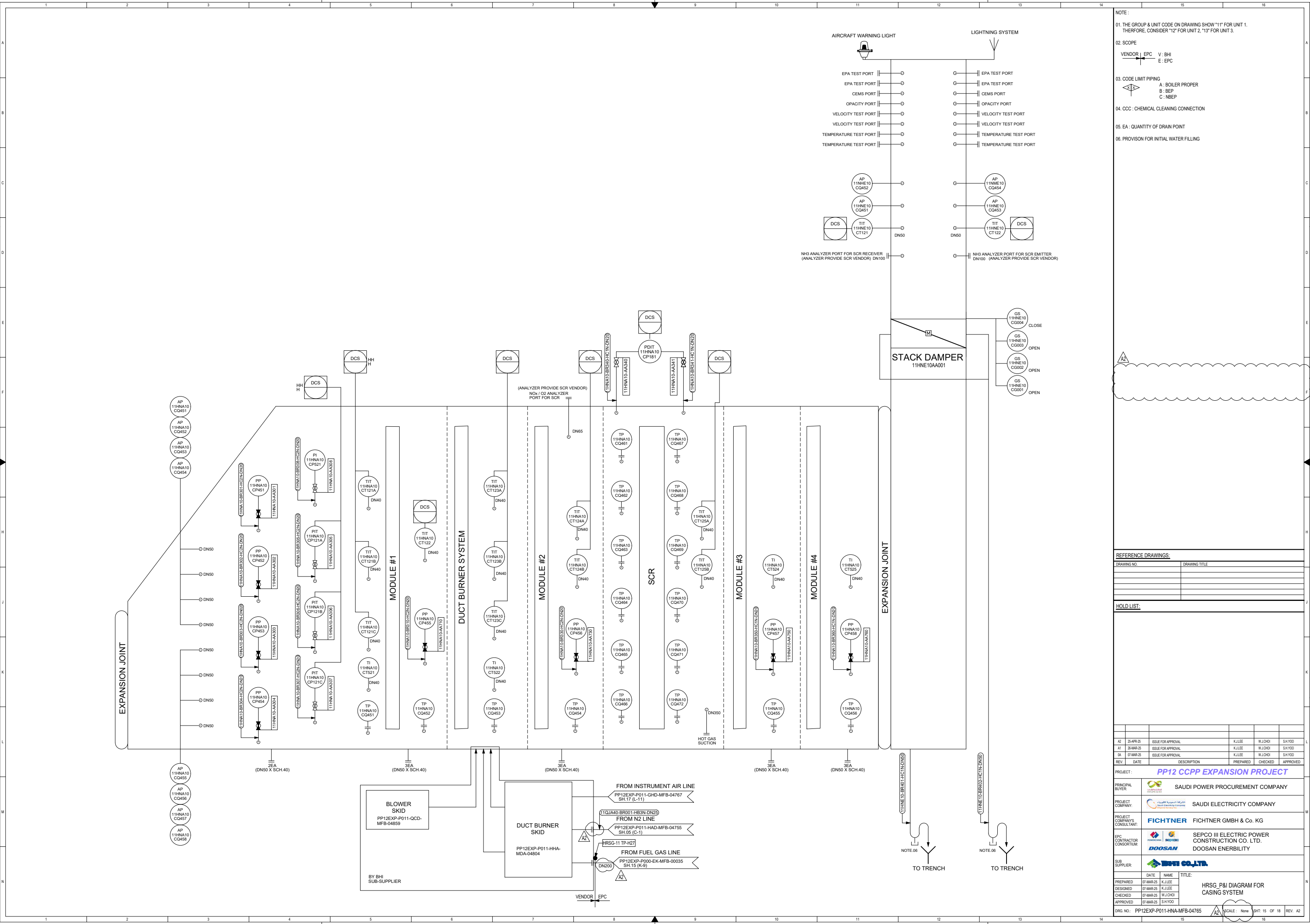
DESIGNED : 07-MAR-25 WJCHOI

CHECKED : 07-MAR-25 SHYOO

APPROVED : 07-MAR-25 SHYOO

DRG. NO. : PP12EXP-P011-LCQ-MFB-04764 SCALE : None SHT: 14 OF 18 REV. A2

As 11 (8mm x 84mm)



NOTE :

01. THE GROUP & UNIT CODE ON DRAWING SHOW "11" FOR UNIT 1.
THEREFORE, CONSIDER "12" FOR UNIT 2, "13" FOR UNIT 3.

02. SCOPE

VENDOR | EPC V : BHI
E : EPC

03. CODE LIMIT PIPING

A : BOILER PROPER
B : BEP
C : NBEF

04. CCC : CHEMICAL CLEANING CONNECTION

05. EA : QUANTITY OF DRAIN POINT

06. PROVISION FOR INITIAL WATER FILLING

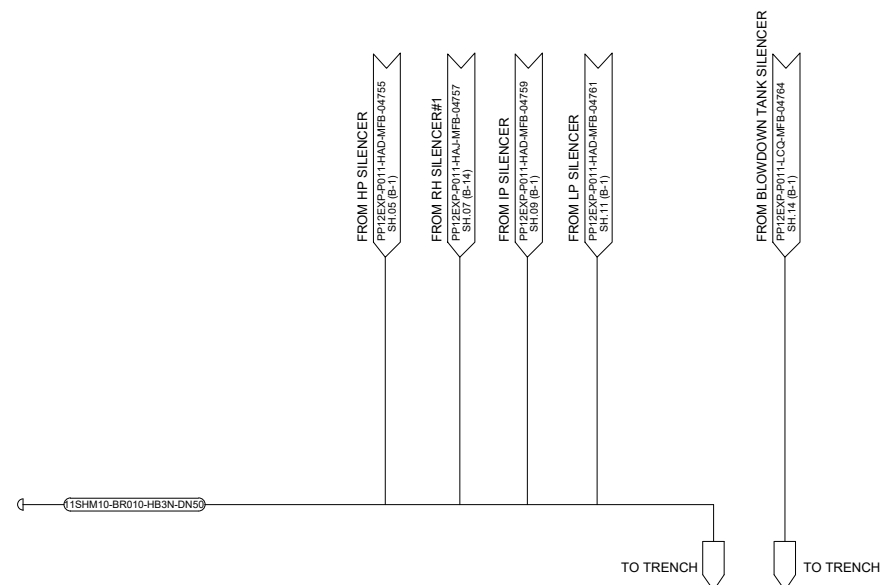
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DRAWING NO.	DRAWING TITLE

HOLD LIST:

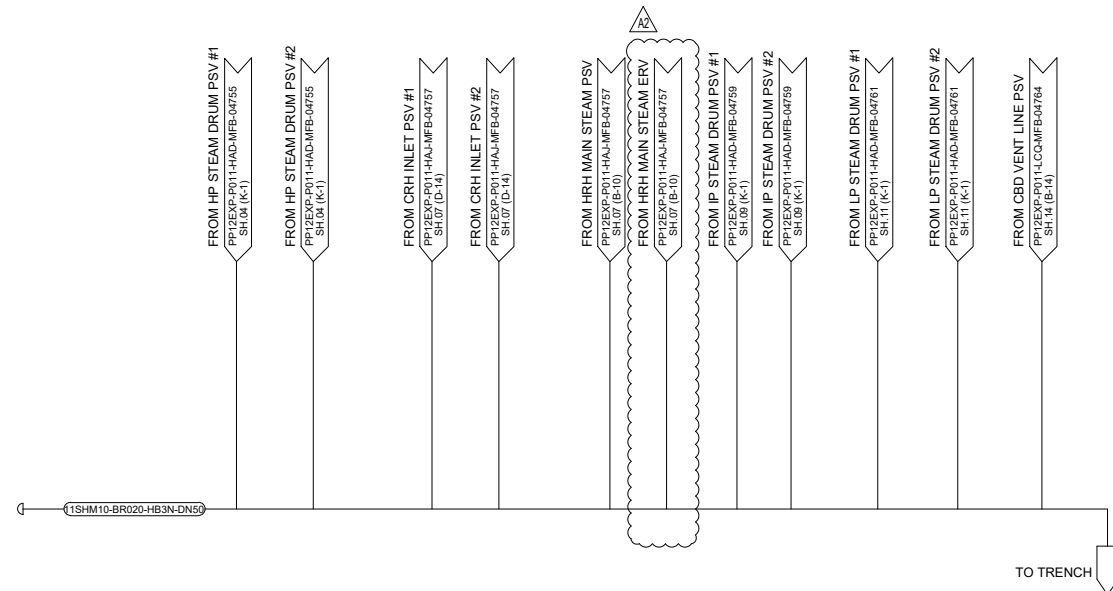
REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED

PROJECT :		PP12 CCPP EXPANSION PROJECT		
PRINCIPAL BUYER:		SAUDI POWER PROCUREMENT COMPANY		
PROJECT COMPANY:		SAUDI ELECTRICITY COMPANY		
PROJECT COMPANY'S CONSULTANT:		FICHTNER GMBH & Co. KG		
EPC CONTRACTOR CONSORTIUM:		SEPCO III ELECTRIC POWER CONSTRUCTION CO. LTD. DOOSAN ENERLITY		
SUB SUPPLIER:		BHI CO., LTD.		
DATE	NAME	TITLE:		
PREPARED	07-MAR-25	K.J.LEE	HRSG P&I DIAGRAM FOR CASING SYSTEM	
DESIGNED	07-MAR-25	K.J.LEE		
CHECKED	07-MAR-25	W.J.OHOI		
APPROVED	07-MAR-25	S.H.YOO		
DRG. NO.:		PP12EXP-P011-HNA-MFB-04765		SCALE: None
SHEET:		15		OF 18
REV.:		A2		REV. A2

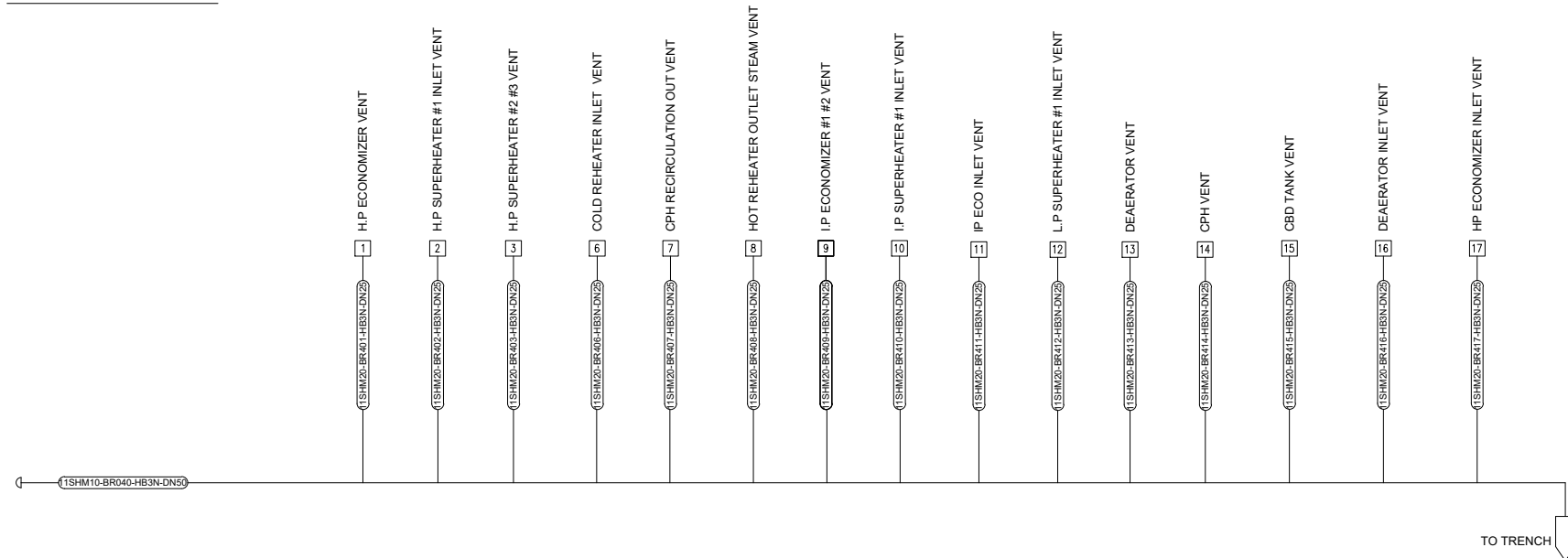
SILENCER DRAIN LINE



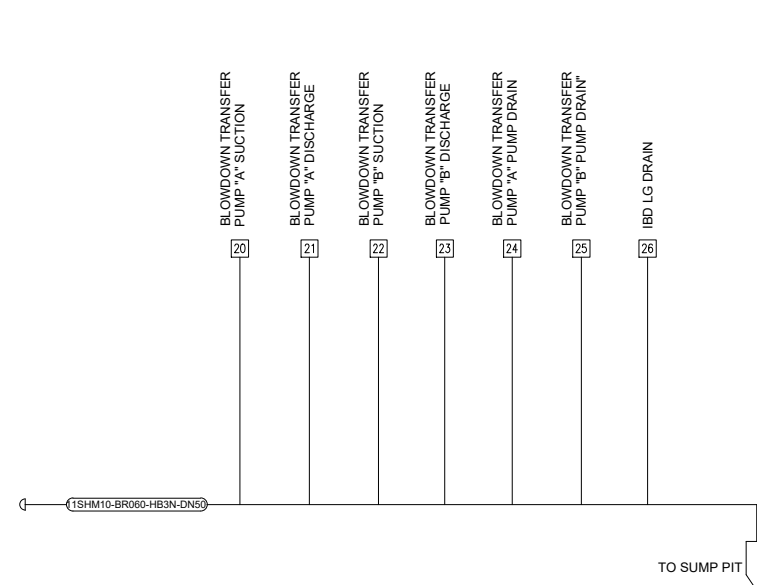
PRESSURE SAFETY VALVE DRAIN LINE



FUNNEL DRAIN LINE



IBD TANK AREA DRAIN LINE



NOTE :

01. THE GROUP & UNIT CODE ON DRAWING SHOW "11" FOR UNIT 1. THEREFORE, COSIDER "12" FOR UNIT 2, "13" FOR UNIT 3.

02. SCOPE

VENDOR | EPC V : BHI
F : EPC

03. CODE LIMIT PIPING

 A : BOILER PROPER
 B : BEP
 C : NBEP


04. CCC : CHEMICAL CLEANING CONNECTION

[illegible]

HOLD LIST:

A2	26 APR-05	ISSUE FOR APPROVAL	KJLIEE	W/J/OOI	\$H YOO
A1	26 MAR-05	ISSUE FOR APPROVAL	KJLIEE	W/J/OOI	\$H YOO
DA	07 MAR-05	ISSUE FOR APPROVAL	KJLIEE	W/J/OOI	\$H YOO
REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED

PROJECT: PP12 CCPP EXPANSION PROJECT




PRINCIPAL		SAUDI POWER PROCUREMENT COMPANY
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<p>  MINISTARSTVO OBRAZOVANJA I NAUKA REPUBLIKE SRBIJE </p>	<p> POSREDOVANJE U PROMETU POSREDOVANJE U PROMETU POSREDOVANJE U PROMETU </p>
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PROJECT COMPANY: SAUDI ELECTRICITY COMPANY

PROJECT COMPANY'S CONSULTANT **FICHTNER** FICHTNER GMBH & Co. KG

500 SEPCO III ELECTRIC POWER


CONTRACTOR CONSORTIUM:    CONSTRUCTION CO. LTD.
DOOSAN ENERGY

SUPPLIER:	BMT
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	DATE	NAME	TITLE
PREPARED	07-MAR-25	K.J.LEE	HRSC B&I DIAGRAM FOR

DESIGNED	07-MAR-25	K.J.LEE
CHECKED	07-MAR-25	W.J.CHOI

DRAIN SYSTEM

APPROVED	07-MAR-25	S.H.YOO	
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	15	16
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SCALE : Non

SHT


16 OF

A40 (1189mm x 841mm)


NOTE :


01. THE GROUP & UNIT CODE ON DRAWING SHOW "11" FOR UNIT 1.
THEREFORE, COSIDER "12" FOR UNIT 2, "13" FOR UNIT 3.

02. SCOPE

 V : BHI
E : EPC

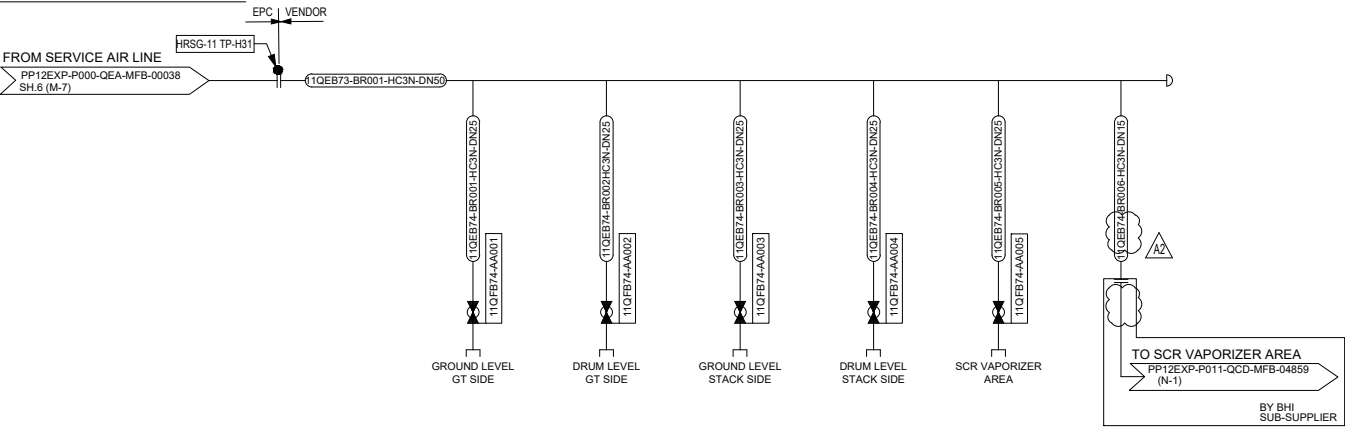
03. CODE LIMIT PIPING

 A : BOILER PROPER
B : BEP
C : NBEP

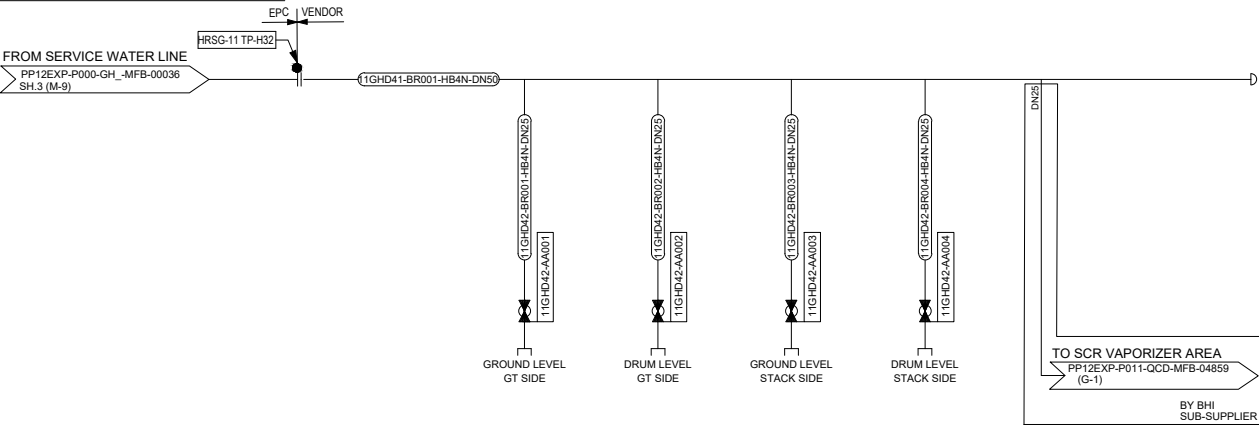
04.  : LOCAL MAINTENANCE DRAIN FOR VISUAL CHECK

[illegible]

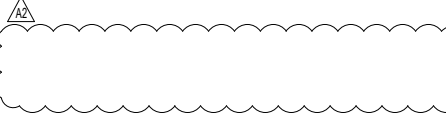
SERVICE AIR SYSTEM



SERVICE WATER SYSTEM



NOTE :
01. THE GROUP & UNIT CODE ON DRAWING SHOW "11" FOR UNIT 1.
THEREFORE, COSIDER "12" FOR UNIT 2, "13" FOR UNIT 3.
02. SCOPE
VENDOR | EPC
V : BHI
E : EPC
03. CODE LIMIT PIPING
A : BOILER PROPER
B : BEP
C : NBEP



REFERENCE DRAWINGS:	
DRAWING NO.	DRAWING TITLE

HOLD LIST:

REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED

A2	25-MAR-25	ISSUE FOR APPROVAL	K.J.LEE	W.J.CHOI	S.H.YOO
A1	28-MAR-25	ISSUE FOR APPROVAL	K.J.LEE	W.J.CHOI	S.H.YOO
04	07-MAR-25	ISSUE FOR APPROVAL	K.J.LEE	W.J.CHOI	S.H.YOO
PROJECT :	PP12 CCPP EXPANSION PROJECT				
PRINCIPAL BUYER:	SAUDI POWER PROCUREMENT COMPANY				
PROJECT COMPANY:	SAUDI ELECTRICITY COMPANY				
PROJECT COMPANY'S CONSULTANT:	FICHTNER FICHTNER GMBH & Co. KG				
EPC CONTRACTOR CONSORTIUM:	SEPCO III ELECTRIC POWER CONSTRUCTION CO. LTD. DOOSAN ENERBILITY				
SUB SUPPLIER:	BHI CO., LTD.				
PREPARED	07-MAR-25	K.J.LEE	HRSG_P&I DIAGRAM FOR UTILITY SYSTEM (2/2)		
DESIGNED	07-MAR-25	K.J.LEE			
CHECKED	07-MAR-25	W.J.CHOI			
APPROVED	07-MAR-25	S.H.YOO			
DRG. NO.:	PP12EXP-P011-GHD-MFB-04768		A2	SCALE: None	SHT: 18 OF 18
REV.	A2				