

PENGALAMAN PROJECT HAZID HAZOPS

PT. JEAP KARYA ASIH

Jakarta, 07 Oktober 2022

Hazard and Operability Study, atau dikenal sebagai analisis HAZOP adalah teknik standar yang digunakan dalam penyusunan pembentukan keamanan di sistem baru atau modifikasi kehadiran potensi bahaya atau masalah pengoperasiannya dengan mengidentifikasi dan mengevaluasi bahaya dalam proses yang direncanakan atau yang sudah ada dan operasi dengan cara yang paling efektif, ekonomis, dan tepat waktu ketika semua pertimbangan dan kendala yang relevan diperhitungkan. HAZOP dapat digunakan secara bersamaan dalam proses identifikasi bahaya dan juga pada sistem operasi secara berkelanjutan.



HAZOPS

HAZARD AND OPERABILITY STUDY



HAZID

Hazard Identification

HAZID (Hazard Identification) merupakan studi tentang perhitungan suatu bahaya yang mungkin terjadi dari semua proses maupun non proses yang berhubungan dengan fasilitas yang ada dalam suatu pabrik. Penerapan studi ini dapat berguna dalam merancang serta mengatur segala hal yang berkaitan dengan isu keselamatan dan keamanan di lingkungan kerja. Adapun bentuk pengimplementasian HAZID ini yakni segala hal yang mencakup mesin atau desain peralatan tertentu yang digunakan hingga manajemen penggunaannya hingga akhir.



BASIC HAZID HAZOP

PT. ELNUSA ,Tbk.

Recording has started. This meeting is being recorded. By joining, you are giving consent for this meeting to be recorded. [Privacy policy](#) Dismiss

Participants

Type a name

In this meeting (22)

Mute all

JEFFRI IMRON 202100080001

Agus Fahmi External

Agus Sutawian External

ALDILA HERYANDA PRIYONO External

Avisina Hilmi Putra External

Bambang Prio Jati Kusumo External

Chuk Triwibowo Hadiyanto External

Dessy Arfianti External

Dewi Anugrah External

Diah Nova ariani External

Edy Siswanto External

Fauzan Ardiyanto Organizer External

JJ JJJ External

M. Yamin External

Program HSSE+ Academy
Basic HAZID & HAZOP Workshop

Jakarta, 22-23 Maret 2022

elnusa 1969-2022

AKHLAK

www.elnusa.co.id

PT Elnusa Tbk

@elnusaofficial

Workshop 22 – 23 Maret 2022

IRET
research

HAZID HAZOP SIL

PT. PERTA-SAMTAN GAS



Training and Workshop 07 – 08 April 2022

research

PO dan Kontrak

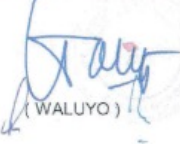
PT. PERTA – SAMTAN GAS
Prabumulih - Palembang

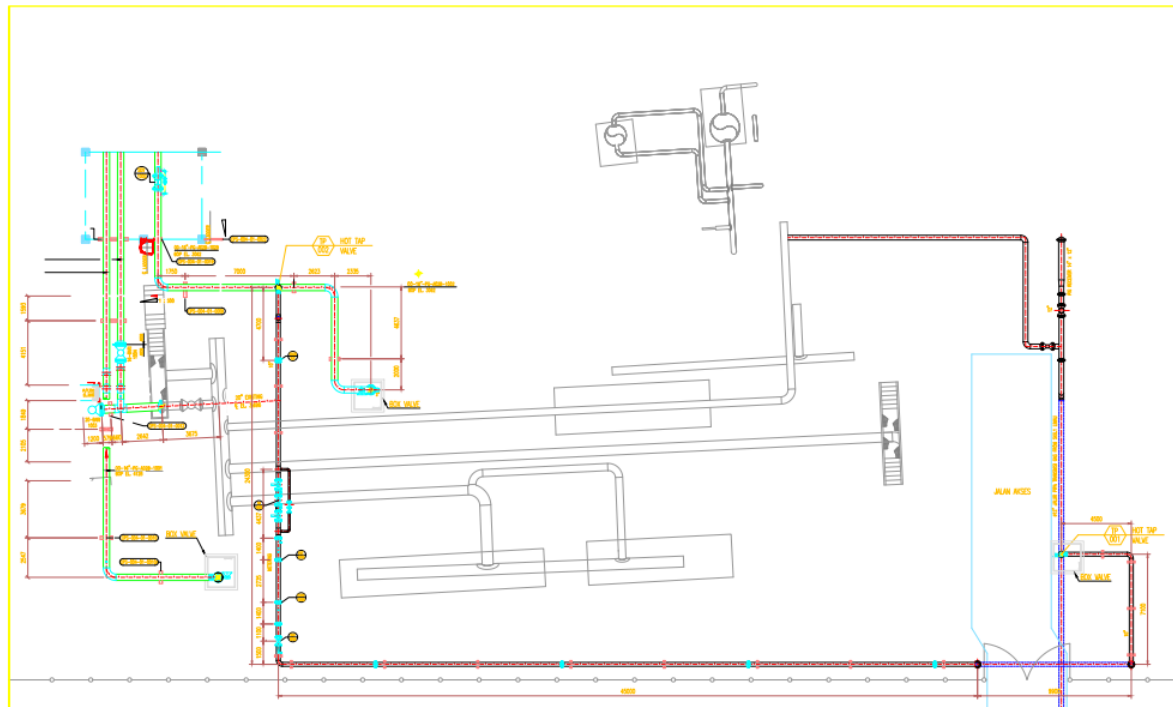
 PT Perta-Samtan Gas KOMPLEK PERTAMINA SUNGAI GERONG JL. NO. 8, KEC. BANYUASIN I SUMATERA SELATAN 30962 TELP: 0711 5740701 FAX: 0711 5740706		Service Order PO Service VENDOR: PT. JEAP KARYA ASIH JL. MAMPANG PRAPATAN RAYA JAKARTA SELATAN, 11000 Indonesia		PO NUMBER / DATE: 3900517503 / 18.03.2022 REFERENCE / DATE: 6500468628/18.03.2022 VENDOR NUMBER: 999820 Vendor NPWP:	SHIPPING TO: Perta Samtan Gas Prabumulih Jl. Nigata, Kel. Anak Petal Prabumulih 31125 PAYMENT TO:	Delv. Time: 6 WEEKS DELIVERY DATE:		
Terms of delivery : DDP Prabumulih Terms of payment : Within 30 days 0,000 % cash discount		Currency: IDR Payment Method : Bank Transfer		IMPORTANT: 1. General Terms and Condition see Attachment				
Item	Material No/ Service No	Serv Group	Quantity	Unit	Description	Price per unit	Value	Delivery Date
1		S99	1	AU	Process Hazard Analysis study Jumper line SKG10 Project THE ITEM COVERS THE FOLLOWING SERVICES:			
1.1			1	LOT	- Update Hazop Study			
1.2			1	LOT	- Update Hazid Study			
1.3			1	LOT	- Update SIL Study			
1.4			1	LOT	- Akomodasi & Mobilisasi			
Remarks : sistem pembayaran 50% setelah PO dan 50% pekerjaan 100% dengan maksimal 30 hari setelah invoice di terima								



PO dan Kontrak

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang

	PT Perta-Samtan Gas KOMPLEK PERTAMINA SUNGAI GERONG JL. NO. 8, KEC. BANYUASIN I SUMATERA SELATAN 30962 TELP: 0711 5740701 FAX: 0711 5740706	
Service Order PO Service	PO NUMBER / DATE: 3900517503 / 18.03.2022	Currency: IDR
Total Price in IDR: Total net value excl. tax IDR: EIGHTY-ONE MILLION RUPIAH VAT in IDR: Total net value incl. tax IDR: EIGHTY-NINE MILLION ONE HUNDRED THOUSAND RUPIAH		
We confirm our acceptance of this PO on the terms and conditions herein stated. Signature: PT. JEAP KARYA ASIH Name: <u>JEFFI IMRON</u> Date: <u>25 MARET 2022</u>  		
Approved by: PRESIDENT DIRECTOR  (WALUYO)		



	NO	DESC	PIC	REV	ASY	IMN / RK	MD	PIPING SISTEM JUMPER LINE PIPA Ø 10" DI SKG 10 PRABUMULIH BARAT ALT.1	A4 MM
					DRAWN	CHECK	APPROVED		

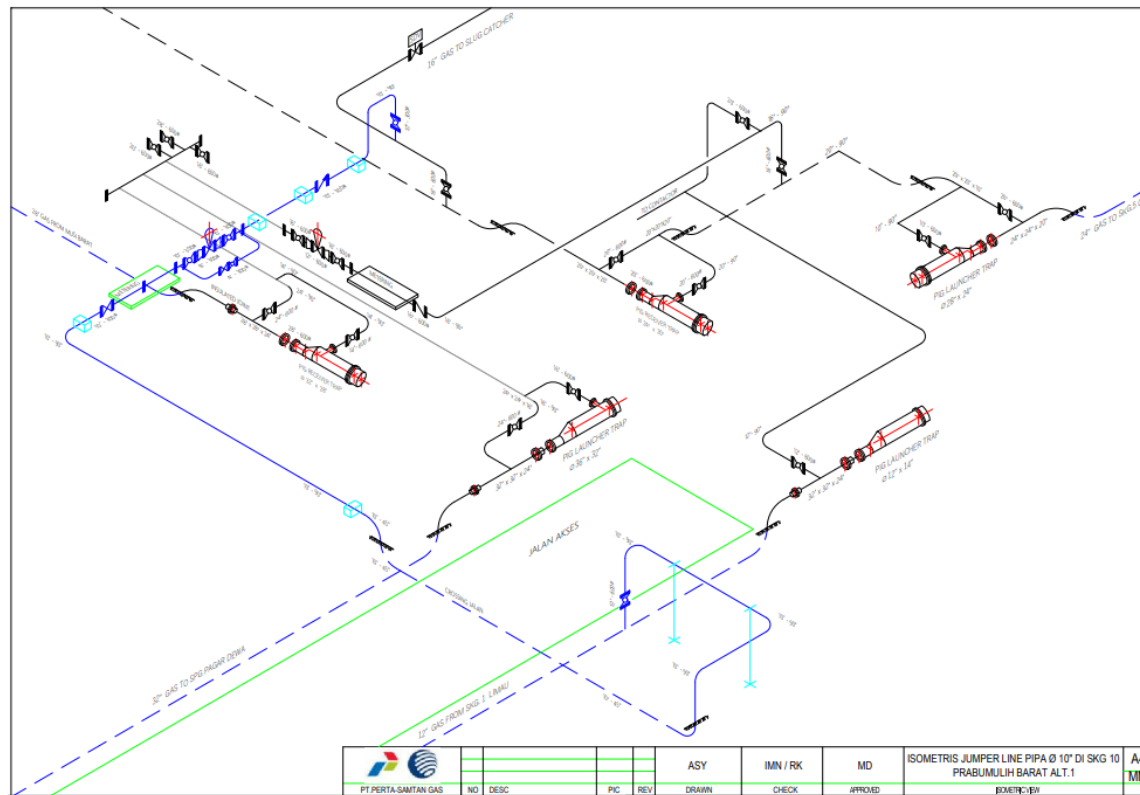
Add a footer

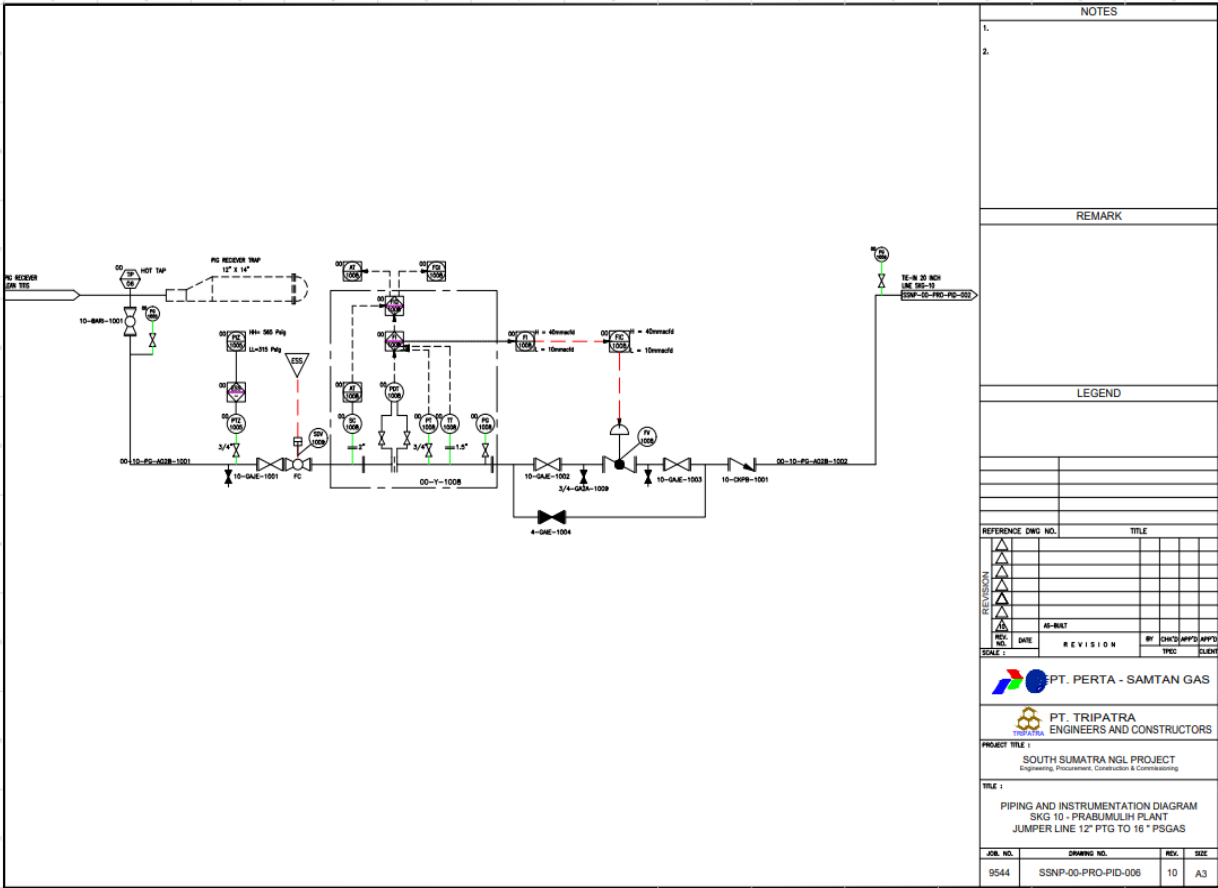
PIPING

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang

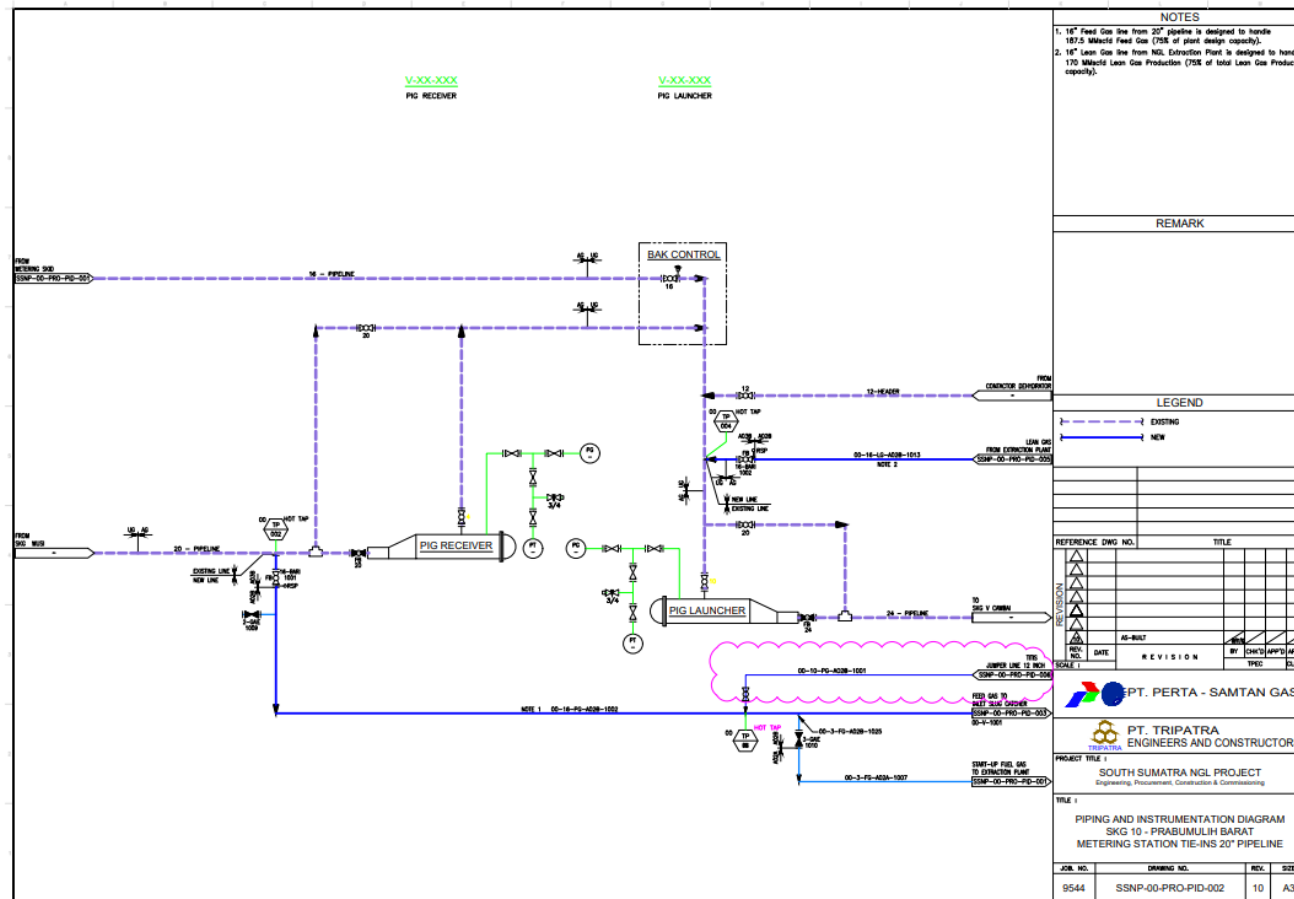
ISOMETRIK

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang





PT. PERTA – SAMTAN GAS
Prabumulih - Palembang



P&ID 2

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang

WORKSHEET HAZID

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang

Nodes: 1. 10" Jumper line tie-in from 12" PTG to 16" PSGAS

Hazard Category	Guideword	Cause	Consequence	Cons. Cat.	Risk Ranking			Safeguards	Residual Risk Ranking			Recommendations	Responsibility	Comment
					L	S	RR		L	S	RR			
	5.7 Oil and hydrocarbon gas under pressure	5.7.1. Not applicable												
6. Hazard associated with differences in height	6.1 Personnel at height >2m	6.1.1. Working at high location (manual ball valve 10" at tie in point 16" (PSGAS))	6.1.1.1. Fall and slip resulting in injury/fatality	S	3	3	9	1. PTW/HIRARC/ Tool box meeting 2. Training 3. PPE such as non-slip safety shoes, body harness, helmet	1	1	1	1. To provide platform for operation manual ball valve 10" at tie in point 16" (PSGAS)	PSGAS	
	6.2 Overhead equipment	6.2.1. Potential hit existing pipe line 12" 14" 16" at area SKG 10 (near pig receiver line 28" and 20")	6.2.1.1. Personnel injury	S	3	2	6	1. PPE (helmet)	2	1	2	2. To provide warning sign at proper location	PSGAS	
	6.3 Personnel under water	6.3.1. Not applicable	6.3.1.1.											
	6.4 Scaffolding erection	6.4.1. Not applicable												
7. Objects under induced stress	7.1 Objects under tension	7.1.1. Not applicable												
	7.2 Objects under compression	7.2.1. Cylinder kit of SDV 1009 broken	7.2.1.1. Excessive usage of instrument air	A	4	1	4	1. PM schedule	1	1	1			
8. Dynamic situation hazards	8.1 On water transport (boating)	8.1.1. Not applicable												
	8.2 In air transport (flying)	8.2.1. Not applicable												
	8.3 Boat collision hazard to other vessels and offshore structures	8.3.1. Not applicable												
	8.4 Equipment with moving/ rotating parts	8.4.1. Not applicable												
	8.5 Use of hazardous hand tools (grinding, sawing)	8.5.1. Not applicable												
	8.6 Use of knives, machetes and other sharp objects	8.6.1. Not applicable												
	8.7 Transfer from boat to offshore platform	8.7.1. Not applicable												
	8.8 Light vehicle	8.8.1. Loss of control of light vehicle	8.8.1.1. Potential collision to piping leading to piping damage	A	2	3	6	1. Speed limit 2. Driving license 3. PTW/HIRARC/ Tool box meeting 4. Valve box	1	2	2	3. To consider provide additional proper protection for piping near street	PSGAS	
9. Physical environment hazards	9.1 Weather	9.1.1. Heavy rain at site	9.1.1.1. Potential flooding at site leading to piping damage	A	2	3	6	1. Proper draining provided 2. Piping design located	1	2	2			



REPORT HAZID

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang



PT. JEAP KARYA ASIH

Jl. Mampang Prapatan Raya No.73 A Lantai 3, RT. 015/RW. 002
Kel. Tegal Parang, Kec. Mampang Prapatan - Jakarta Selatan
Phone: 081268517074, Email: info@jeapkaryaasih.com

HAZID STUDY REPORT

JUMPER LINE TIE-IN
FROM 12" PERTAGAS TO 16" PERTA-SAMTAN GAS

B	26-April-2022	Issued for Approval	MF/NF		MZ		PH/MD	
A	19-Apr-2022	Issued for Information	MF/NF		MZ		PH/MD	
Rev	Date	Reason for Issue	Prepared	Signature	Checked	Signature	Approved	Signature

PJK3 Jeap Consulting | TUK Jeap Consulting | LPK Jeap Consulting

HAZOP WORKSHEET

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang

HAZOP Worksheet

Node: 1. 10" Jumper line tie-in from 12" PTG (Pertagas) to 16" PSGAS (Pertasamtan Gas)

Design Intent: To maintain feed gas to NGL extraction plant (minimum 170 MMSCFD)

Printed On: 4/13/2022

Deviation	Cause	Consequence	Cons. Cat.	Risk Ranking				Safeguards	Residual Risk Ranking				Recommendations	Responsibility	Remarks
				L	S	RR			L	S	RR				
1.1. No/Less Flow	1.1.1. No/Less flow from upstream (<10 MMSCFD)	1.1.1.1. Potential surging expander of compressor leading to loss production	F	1	2	2		1. another gas source from 28" (128 MMSCFD) and 20" (50 MMSCFD) 2. FAL 1008 set @10 MMSCFD 3. FIC 1008 will compensate flow by more opening FV 1008 4. ASV- Expander 5. ASV feed compressor will open 6. PAL 1005 set @315 psig to alert operator	1	1	1		1. To revise P&ID for PTZ 1005 set LL = 315 psig (SIS action) to low pressure alarm (not SIS action)	PSGAS	
	1.1.2. SDV-1009 fails closed	1.1.2.1. Potential surging expander of compressor leading to loss production	F	3	2	6		1. SDV open close status 2. another gas source from 28" (128 MMSCFD) and 20" (50 MMSCFD) 3. FAL 1008 set @10 MMSCFD 4. FIC 1008 will compensate flow by more opening FV 1008 5. ASV- Expander 6. ASV feed compressor will open 7. PM schedule	3	1	3				
		1.1.2.2. No pressure built up in pipe upstream of SDV-1009 due to another way gas to Cambai station													
	1.1.3. FV-1008 malfunction closed	1.1.3.1. Potential surging expander of compressor leading to loss production	F	4	2	8		1. FV open close status 2. another gas source from 28" (128 MMSCFD) and 20" (50 MMSCFD) 3. ASV- Expander 4. ASV feed compressor will open 5. PM schedule	3	1	3				
		1.1.3.2. Pressure built up in pipe upstream of FV-1008 leading to overpressure and potential leak at gasket connection, pipe rupture, fire if ignited	S	4	4	16		1. Piping fully rated (ANSI #300) 2. PAHH-1005 set @565 psig to close SDV-1009 3. By pass line install around FV 1008 4. PM schedule 5. PSV set @630 psig at slug catcher line 20"	2	2	4		2. To add high alarm for PTZ 1005 and define set point and update P&ID	PSGAS	
		1.1.3.3. Pressure built up in pipe upstream of FV-1008 leading to overpressure and potential leak at gasket connection, pipe rupture, fire if ignited	A	4	2	8		1. Piping fully rated (ANSI #300) 2. PAHH-1005 set @565 psig to close SDV-1009 3. By pass line install around FV 1008 4. PM schedule 5. PSV set @630 psig at slug catcher line 20"	3	1	3		2. To add high alarm for PTZ 1005 and define set point and update P&ID	PSGAS	
		1.1.3.4. Pressure built up in pipe upstream of FV-1008 leading to overpressure and potential leak at gasket connection, pipe rupture, fire if ignited	R	4	3	12		1. Piping fully rated (ANSI #300) 2. PAHH-1005 set @565 psig to close SDV-1009 3. By pass line install around FV 1008 4. PM schedule 5. PSV set @630 psig at slug catcher line 20"	2	1	2		2. To add high alarm for PTZ 1005 and define set point and update P&ID	PSGAS	
	1.2. More Flow	1.2.1. More flow from upstream (>40 MMSCFD)	F	1	2	2		1. AT 1008 can be monitored from CCR 2. Alarm composition CO2 GC in plant 3. FAH 1008 set @40 MMSCFD 4. FIC 1008 will compensate flow by less opening FV 1008	1	1	1				
		1.2.2. FV-1008 malfunction open	F	4	2	8		1. AT 1008 can be monitored from CCR	3	1	3				

File Name: HAZOP

1 of 2



HAZOP REPORT

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang



PT. JEAP KARYA ASIH

Jl. Mampang Prapatan Raya No.73 A Lantai 3, RT. 015/RW. 002
Kel. Tegal Parang, Kec. Mampang Prapatan - Jakarta Selatan
Phone: 081268517074, Email: info@jeapkaryaasih.com

HAZOP STUDY REPORT

JUMPER LINE TIE-IN
FROM 12" PERTAGAS TO 16" PERTA-SAMTAN GAS

B	26-April-2022	Issued for Approval	MF/NF		MZ		PH/MD	
A	19-Apr-2022	Issued for Information	MF/NF		MZ		PH/MD	
Rev	Date	Reason for Issue	Prepared	Signature	Checked	Signature	Approved	Signature

PJK3 Jeap Consulting | TUK Jeap Consulting | LPK Jeap Consulting

SIL WORKSHEET

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang

Function No: F001
Function Name: PAHH-1005 set @565 psig to close SDV-1009
Initiator: 00-PTZ-1005
Final Element: SDV-1009
Description: High High Pressure at jumper line to prevent overpressure
P&ID: SSNP-00-PRO-PID-006
P&ID Rev.: 10
SAFE Chart:
Design Intent: To prevent pipe rupture
HAZOP Node: 1
Comment:
Highest SIL Rating: S (A)

Ref	Cat.	Impact Event Description	Severity Level	Initiating Cause			Conditional Modifier		Protection Layers (PLs)						Intermediate Event Likelihood (per year)	SIF PFD	Integrity Level (IL)	TMEL (per year)
				Description	Demand Scenario	Demand Freq (per year)	Probability of Occupancy	Probability of Ignition	Process Design	BPCS	Alarm	SIS	Add Mitigation (Mechanical Device)	Others (Passive IPL)				
1.1.3	S	Pressure built up in pipe upstream of FV-1008 leading to overpressure and potential leak at gasket connection, pipe rupture, fire if ignited	E	00-FV-1008 malfunction closed	BPCS instrument loop failure	1.00E-01									1.00E-07	1.00E+02	S (NR)	1.0E-05
							People are present for less than 1 - 2	Vulnerability small gas	Inherently safe	No BPCS Available	Operator Response to an audible alarm with at	No SIS Available	Relief Valve (Clean Service)	No Mitigation				
							0.1	0.1	0.1	1	0.1	1	0.01	1				
1.1.2	S	Potential more pressure to jumper line PGDAS leading to overpressure and piping damage, loss of containment, fire if ignited.	E	Cambal station trip	Cambal Shutdown	1.00E-01									1.00E-05	1.00E+00	S (NR)	1.0E-05
							People are present for less than 1 - 2 hours per day	Vulnerability small gas release	Inherently safe	No BPCS Available	Operator Response to an audible alarm with at least 10 ment response	No SIS Available	No Mitigation	No Mitigation				
							0.1	0.1	0.1	1	0.1	1	1	1				
	E														0.00E+00	-		
	E														0.00E+00	-		
1.1.3	C	Pressure built up in pipe upstream of FV-1008 leading to overpressure and potential leak at gasket connection, pipe rupture, fire if ignited	C	00-FV-1008 malfunction closed	BPCS instrument loop failure	1.00E-01									1.00E-06	1.00E+04	C (NR)	1.0E-02
							People are present for less than 1 - 2 hours per day	Vulnerability small gas release	Inherently safe	No BPCS Available	Operator Response to an audible alarm with at least 10 ment response	No SIS Available	Relief Valve (Clean Service)	No Mitigation				
							0.1	0.1	0.1	1	0.1	1	0.01	1				
	C														0.00E+00	-		
															0.00E+00	-		
Overall SIL																	S (A)	

Total S
Total E
Total C

IEL	PFD	IL	TMEL
1.01E-05	9.90E-01	S (A)	1.00E-05
0.00E+00	-		
1.00E-06	1.00E+04	C (NR)	1.00E-02



SIL REPORT

PT. PERTA – SAMTAN GAS
Prabumulih - Palembang



PT. JEAP KARYA ASIH

Jl. Mampang Prapatan Raya No.73 A Lantai 3, RT. 015/RW. 002
Kel. Tegal Parang, Kec. Mampang Prapatan - Jakarta Selatan
Phone: 081268517074, Email: info@jeapkaryaasih.com

SIL CLASSIFICATION STUDY REPORT

JUMPER LINE TIE-IN
FROM 12" PERTAGAS TO 16" PERTA-SAMTAN GAS

B	26-April-2022	Issued for Approval	ME/NF		MZ		PH/MD	
A	19-Apr-2022	Issued for Information	ME/NF		MZ		PH/MD	
Rev	Date	Reason for Issue	Prepared	Signature	Checked	Signature	Approved	Signature

PJK3 Jeap Consulting | TUK Jeap Consulting | LPK Jeap Consulting

HAZOP

PT. GEO DIPA ENERGI (PERSERO)



Training and Workshop 05 – 09 September 2022

research

PO dan Kontrak

PT. GEO DIPA ENERGI (PERSERO)
Unit 1 Dieng



GEO DIPA ENERGI

To: Jeap Karya Asih, PT

JL Mampang Prapatan Raya No73 A LT3
KOTA ADM. JAKARTA SELATAN 12790

Your vendor number with us: 30001958

Deliver to: PT. GEO DIPA ENERGI
Jl. Raya Dieng - Batur
Banjarnegara

Priced packing list accompany delivery

Bill to: PT. GEO DIPA ENERGI
Jl. Raya Dieng - Batur
Banjarnegara

Attn : Accounting Department

General Terms & Conditions see overleaf

PURCHASE ORDER

Number: 8000007892	Page: 1 of 2
-----------------------	-----------------

This Purchase Order Number must appear on all delivery notes, invoices, packing lists, cartons and correspondences related to this order

PO Date: 01.09.2022	Purchasing Group: T06 -
Currency IDR	Telephone: 0286 3342020

Payment Term: Z030 - 30 days RFQ Number: 6000008569

Delivery Term: **Remarks:** Hazop Study

Item	Material Number	Description	Delivery Date	Qty	UoM	Price per Unit	Amounts
00001		Hazop Study Hazop Study : Pelaksanaan : - Training Offline Pelaksanaan di Aula Kantor GDE Dieng - Kajian HAZOP offline di Aula Kantor GDE Dieng Ruang Lingkup Kajian HAZOP - Area Well Pad Produksi - Area Jalur Pipa SAGS - Area Power Plant GDE Unit 1 Fasilitas : - Trainer & Fasilitator pembantu - Training Kit - Snack Pagi & Snack Siang/ Coffe Break untuk Peserta Training & Kajian HAZOP +/- 20 Orang	01.10.2022	1	AU		
				1	AU		



PO dan Kontrak

PT. GEO DIPA ENERGI (PERSERO)

Unit 1 Dieng



PURCHASE ORDER (COPY)

Number: 8000007892	Page: 2 of 2
-----------------------	-----------------

Item	Material Number	Description	Delivery Date	Qty	UoM	Price per Unit	Amounts
		- Laporan HAZOP - Sertifikat Pelatihan The item covers the following services: 01 Hazop Study					

Required Documents for Invoicing :

1. Request payment Letter
2. Payment Slip Evidence / Kwitansi with 6 (six) Fold / 1 (one) Stamp Duty
3. Invoice from supplier with 6 (six) Fold / 1 (one) Stamp Duty
4. Tax Invoice (Faktur Pajak)
5. Original PO / Contract with signed GDE's duty stamp
6. Delivery Ticket
7. Good Receipt Sheet/Service Receipt Sheet (BASTB/BAPPS)

We confirm our acceptance of the foregoing agreement on the terms and conditions here in stated.

Signature:



Name: *Septi Iman*
Date:

VAT 11 %
Total



Herdian Ardi Febrianto
(General Manager)



PID & PFD POWER PLANT

PT. GEO DIPA ENERGI (PERSERO)

Unit 1 Dieng

PT. Geo Dipa Energi > DOKUMEN PID DAN PFD PT GDE > Dokumen PID _ PFD - GDE DIENG > P_ID POWER PLANT

☐ Name	Date modified	Type	Size
20262-05-32130 Gathering System Blowdown Pump) Rev4	14/07/2022 23:12	Microsoft Edge PD...	108 KB
20262-05-32131 Gathering System Southern Injection Well Rev.	14/07/2022 23:12	Microsoft Edge PD...	243 KB
20262-05-32132 Gathering System Northern Injection Well Rev.	14/07/2022 23:12	Microsoft Edge PD...	130 KB
20262-05-32133 Gathering System Injection Booster Pump Rev.3	14/07/2022 23:12	Microsoft Edge PD...	222 KB
20262-05-32140 Interconnecting Pipeway Steam Supply Rev.4	14/07/2022 23:12	Microsoft Edge PD...	210 KB
20262-05-32140 Interconnecting Pipeway Steam Supply Rev.4_(C	14/07/2022 23:12	Microsoft Edge PD...	176 KB
20262-05-32141 TurbineGenerator, Compr. Area Turbine Generat	14/07/2022 23:12	Microsoft Edge PD...	144 KB
20262-05-32142 TurbineGenerator Area Turbine Auxiliaries Rev	15/07/2022 0:27	Microsoft Edge PD...	238 KB
20262-05-32143 Condenser Condenser E-101 Rev.4	14/07/2022 23:12	Microsoft Edge PD...	301 KB
20262-05-32144 Cooling Tower Hot Well Pumps Rev.4	14/07/2022 23:12	Microsoft Edge PD...	236 KB
20262-05-32145 TurbineGenerator, Compr. Area Mechanical Gas	14/07/2022 23:12	Microsoft Edge PD...	311 KB
20262-05-32146 Standby Vacuum System 1st Stage Vacuum System	14/07/2022 23:12	Microsoft Edge PD...	135 KB
20262-05-32147 Standby Vacuum System 2nd Stage Vacuum System	14/07/2022 23:12	Microsoft Edge PD...	132 KB
20262-05-32148 Cooling Tower Fans Rev.4	14/07/2022 23:12	Microsoft Edge PD...	218 KB
20262-05-32149 Cooling Tower Cooling TowerRev.4	14/07/2022 23:12	Microsoft Edge PD...	207 KB
20262-05-32150 Cooling Tower Auxiliary Cooling Water Rev.3	14/07/2022 23:12	Microsoft Edge PD...	212 KB
20262-05-32151 TurbineGenerator, Compr. Area TurbineCompress	14/07/2022 23:12	Microsoft Edge PD...	201 KB
20262-05-32152 TurbineGenerator Area Turbine Lube Oil Tank R	14/07/2022 23:12	Microsoft Edge PD...	227 KB
20262-05-32153 TurbineGenerator Area Turbine Lube Oil System	14/07/2022 23:12	Microsoft Edge PD...	152 KB
20262-05-32154 TurbineGenerator, Compr. Area Electro-hydraul	14/07/2022 23:12	Microsoft Edge PD...	252 KB
20262-05-32155 TurbineGenerator System TurbineGenerator Inst	14/07/2022 23:12	Microsoft Edge PD...	246 KB
20262-05-32156 TurbineGenerator Electro-hydraulic System Re	14/07/2022 23:12	Microsoft Edge PD...	147 KB
20262-05-32160 Common Facilities Emergency Generator Rev.3	14/07/2022 23:12	Microsoft Edge PD...	159 KB
20262-05-32161 Common Facilities TG Area Drain System Rev.4	14/07/2022 23:12	Microsoft Edge PD...	180 KB
20262-05-32162 Common Facilities Fire Water Pump Rev.5	14/07/2022 23:12	Microsoft Edge PD...	167 KB
20262-05-32163 Common Facilities Plant Fire Water System Rev	14/07/2022 23:12	Microsoft Edge PD...	131 KB
20262-05-32164 Common Facilities Compressed Air System Rev.4	14/07/2022 23:12	Microsoft Edge PD...	249 KB
20262-05-32165 Common Facilities Plant Utility System Rev.4	14/07/2022 23:37	Microsoft Edge PD...	158 KB
20262-05-32166 Common Facilities Cooling Tower Chemical Trea	14/07/2022 23:12	Microsoft Edge PD...	142 KB
20262-05-32167 Common Facilities NCG Compressors Rev.4 (24-	14/07/2022 23:12	Microsoft Edge PD...	161 KB



PID & PFD STEAM FIELD

PT. GEO DIPA ENERGI (PERSERO)

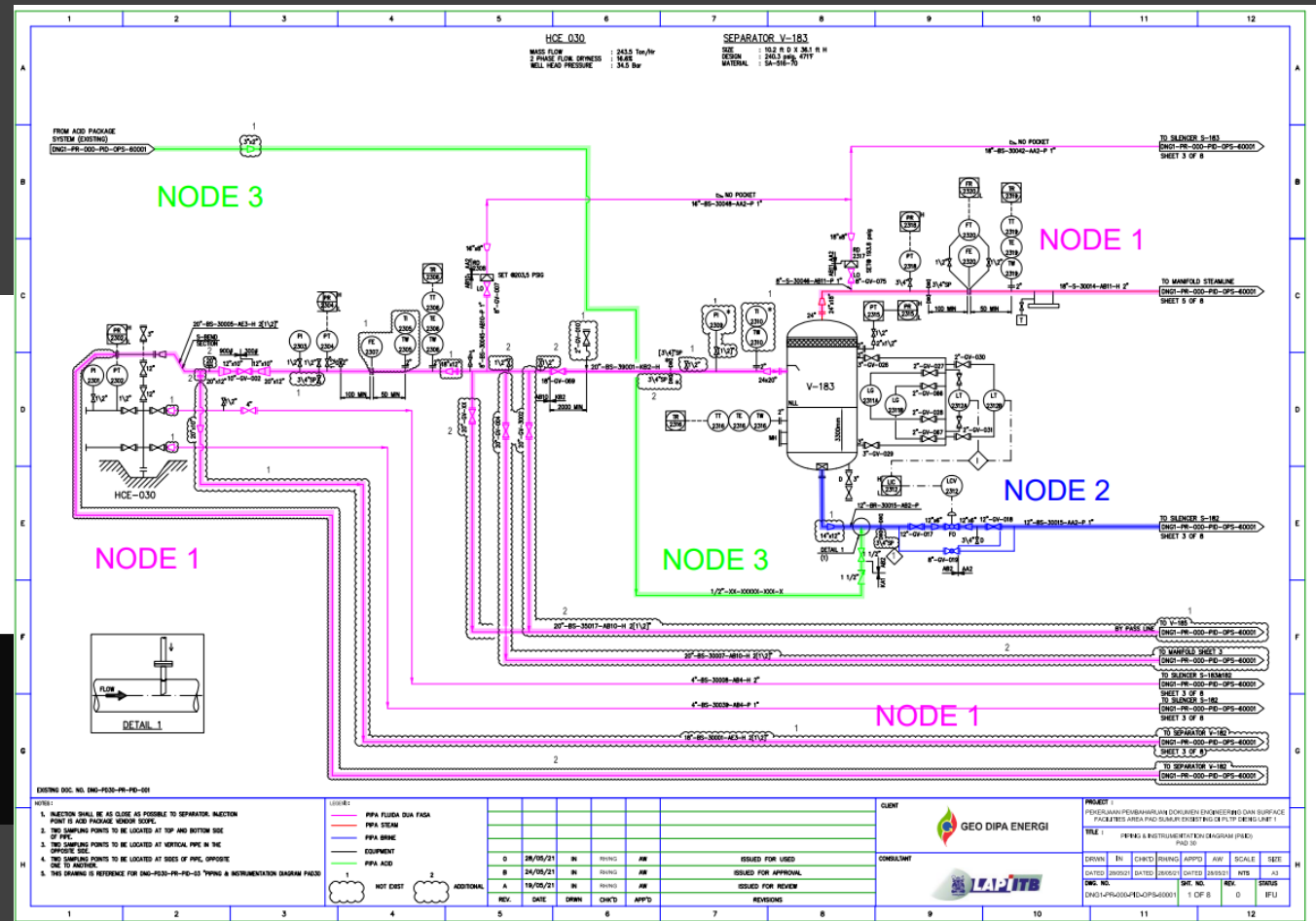
Unit 1 Dieng

PT. Geo Dipa Energy > DOKUMEN PID DAN PFD PT GDE > Dokumen PID _ PFD - GDE DIENG > P_ID STEAM FIELD

☐ Name	Date modified
 DNG1-PR-000-PID-OPS-60001 PID PAD 30-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60002 PID PAD 28-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60003 PID PAD 31-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60004 PID PAD 29-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60005 PID PAD 7-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60006 PID PAD 24-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60007 PID PAD 14-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60008 PID PAD 17-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60009 PID PAD 15-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60010 PID PAD 10-Rev 0	08/01/2022 9:41
 DNG1-PR-000-PID-OPS-60011 PID PAD 9-Rev 0	08/01/2022 9:42
 DNG1-PR-000-PID-OPS-60012 PID PAD 33-Rev 0	08/01/2022 9:42

CONTOH P&ID STEAM FIELD

PT. GEO DIPA ENERGI (PERSERO)
Unit 1 Dieng





WORKSHEET HAZOP

PT. GEO DIPA ENERGI (PERSERO)

Unit 1 Dieng

Node: 1. PAD 7: Two-phase fluid from Production Wells HCE-7B/7C to Separator (V-154/155/158) for separation and separated steam delivered to PLTP via SAGS (30"/36"). Note: Well HCE 7A is temporary plug abandon

Design Intent: 1. To deliver two-phase fluid from Prod Wellheads (Pad 7) to Separators using natural pressure from wells; 2. To separate steam from brine and SAGS (36")

Design Condition/Parameter: Production Well (HCE-7B): Mass Flow = 38.1 T/hr, Steam Fraction = 29%; Brine Fraction = 71%; Wellhead Pressure = 26.3 barg. Production Well (HCE-7C): Mass Flow = 151.8 T/hr, Steam Fraction = 30%; Brine Fraction = 70%; Wellhead

Drawings / References: DNG1-PR-000-PID-OPS-60005 PID PAD 7-Rev 0

Deviation		Cause		Consequence		Cons. Cat.	Initial Risk Ranking			Safeguards	Risk Ranking			Recommendations		Responsibility	Remarks
							S0	L0	RR0		S1	L1	RR1				
1.1.	No/Less Flow	1.1.1.	No/less flow from upstream (Wellhead HCE-7B/7C) due to i.e. pressure of water column higher than pressure of reservoir.	1.1.1.1.	Loss steam production leading to decrease steam supply to PLTP.	G	3	5	15	1 PR-1402/1702 (at Wellhead) can be monitored from Control Room	2	3	6	1 To update P&ID by revising tag number, showing/deleting instrumentation based on actual condition in field (i.e. PSE, PR, FR, TR, etc.).	O&M Steam Field & Operation HO		
										2 PR-1436/1736/1336 can be monitored from Control Room				2 To add PAL at wellhead pad 7, 30, 28, 29, 31 with set pressure following min. pressure from SSI			
										3 TR-1435/1735/1335 can be monitored from Control Room							
										4 Min. pressure from SSI (Silica Saturated Index)							
										5 PM program (throttling throttle valve)							
	1.1.2.	10" Throttling Valve open less than required due to misoperation	1.1.2.1.	Less steam production leading to decrease steam supply to PLTP.	G	3	3	9	1 PR-1402/1702 (at Wellhead) can be monitored from Control Room	1	3	3	1 To update P&ID by revising tag number, showing/deleting instrumentation based on actual condition in field (i.e. PSE, PR, FR, TR, etc.).	O&M Steam Field & Operation HO			
												2 To add PAL at wellhead pad 7, 30, 28, 29, 31 with set pressure following min. pressure from SSI	O&M Steam Field				



			
PT GEO DIPA ENERGI (PERSERO)		PT JEAP KARYA ASIH	
HAZOP REVALIDATION REPORT			
No. Dokumen	Rev.	No. Revisi	Hal 1 dari 43
XXXXXXX	0	XXXXXXXXXX	

PERUSAHAAN	: PT GEO DIPA ENERGI (PERSERO)
KONSULTAN	: PT JEAP KARYA ASIH
NO. KONTRAK	:
NAMA PROYEK	: HAZOP REVALIDASI PT. GEO DIPA ENERGI DIEN

0	Issued For Information	26 Sept 2022	AYA	MZ		
REV	DESKRIPSI	TANGGAL	Dibuat oleh	Diperiksa oleh	Diperiksa oleh	Disetujui oleh
			JEAP		GDE	

			
PT GEO DIPA ENERGI (PERSERO)		PT JEAP KARYA ASIH	
HAZOP REVALIDATION REPORT			
No. Dokumen	Rev.	No. 000000	Hal 2 dari 43
XXXXXX	0	XXXXXXXX	

[illegible]

- **HAL – HAL YANG HARUS DIPERSIAPKAN KETIKA HAZID HAZOP**

1. P&ID (Piping and Instrumentation Diagram) Latest
2. PFD (Process Flow Diagram) Latest
3. Process Description
4. Cost dan Efek Diagram/ Safe Chart
5. Risk Ranking





Thank You

Jefri Imron



+62812 6851 7074



Infojeapkaryaasih.com



<https://www.jeapkaryaasih.com/>

