طرح نگهداشت و افزایش تولید ۲۷ مخزن

CAUSE & EFFECT DIAGRAM

نگهداشت و افزایش تولید میدان نفتی بینک

D01	FEB.2023	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D00	MAY.2022	IFC	M.Aryafar	M.Fakharian	M.Mehrshad	
Rev.	**Date**	**Purpose of Issue / Status**	**Prepared by:**	**Checked by:**	**Approved by:**	**CLIENT Approval**

Class: 2 **CLIENT Doc. Number:** **F0Z-708805**

status:

IDC: Inter-Discipline Check

IFC: Issued For Comment

IFA: Issued For Approval

AFD: Approved For Design

AFC: Approved For Construction

AFP: Approved For Purchase

AFQ: Approved For Quotation

IFI: Issued For Information

AB-R: As-Built for CLIENT Review

AB-A: As-Built –Approved

NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح‌الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک	شرکت توسعه پتروایران HIRGAN ENERGY
	CAUSE & EFFECT DIAGRAM	

شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۲ از ۱۳
۰۵۳ - ۰۷۳ - ۹۱۸٤	BK	GCS	PEDCO	120	PR	CE	0001	D01	

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04	Page	D00	D01	D02	D03	D04
1	X	X				65					
2	X	X				66					
3	X	X				67					
4	X	X				68					
5	X	X				69					
6	X	X				70					
7	X	X				71					
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NOTES	Rev.
1- Following ESD levels are defined:	
ESD 0: Total Plant Shutdown With Automatic Depressurizing	
ESD 1A : Process Emergency ShutDown With Depressurizing	
ESD 1: Process Emergency ShutDown Without Depressurizing	
ESD2A :Train shut down With depressurizing	
ESD 2: Train shut down Without depressurizing	
ESD 3: Equipment shut down	
2- All electrical source except essential power source shall be isolated.	
3- Cause & Effect diagrams of packages will be prepared by vendors.	
4-Definition of symbols:	
A:Active	
C: Close	
O: Open / Start / On	
S: Shut Down / Stop / Off	
T: Trip	
I:/Isolation	
P: Permissive	
PB:Push Button	
R: Reset	
V: Override	
TD: Time Delay	
5-Adjustable Delay	
6-Time delay	
REFERENCES	D01
ESD Philosophy BK-GCS-PEDCO-120-PR-PH-0005	D01
Cause & Effect Diagram BK-GCS-PEDCO-120-PR-CE-0001	D01
ESD Block Diagram BK-GCS-PEDCO-120-PR-BD-0001	D01
ESD Level Hierarchy BK-GCS-PEDCO-120-IN-DG-0003	D01

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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

شرکت توسعه پتروایران

HIRGAN ENERGY

شماره پیمان:

۰۵۳ – ۰۷۳ – ۹۱۸۴

CAUSE & EFFECT DIAGRAM

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	PEDCO	120	PR	CE	0001	D01

DESCRIPTION : ESD 0-Total Plant Shutdown With Automatic Depressurizing

CAUSE

No	Rev.	Level	DESCRIPTION	P & ID	Note	TAG No.
1	D01	0	Manually from Central Control Room (CCR)	-		PB-2101
2		0	Confirmed Flammable Gas in HVAC air in-take (from F&G system)	-		
3		1	Network Power Failure			
4	D01	1	PCS Failure			
5	D01	0	UPS Failure	-		
6			**Total Plant Shut Down With Automatic Depressurizing**			ESD 0
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EFFECT

No	TAG No.	Equipment / Description	P&ID	NOTE
2	A	Total plant shut down	-	
3	A	Emergency & Normal Power isolation which will trip	-	(2)
6	A	UPS Battery isolation by time delay.	-	(5 ,6)
7	A	Process Emergency ShutDown With Depressurizing	-	
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NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک	شرکت توسعه پتروایران HIRGAN ENERGY

شماره پیمان:	CAUSE & EFFECT DIAGRAM								شماره صفحه : ۵از۱۳
۰۵۳ – ۰۷۳ – ۹۱۸۴	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	
	BK	GCS	PEDCO	120	PR	CE	0001	D01	

DESCRIPTION : ESD 1A-Process Emergency ShutDown With Depressurizing

CAUSE							EFFECT												
No	Rev.	Level	DESCRIPTION	P & ID	Note	TAG No.	No	TAG No.	Equipment / Description	P&ID	NOTE								
1		0	Total Plant Shut Down With Automatic Depressurizing	-		ESD-0	1	ESD 1A	Process Emergency ShutDown With Depressurizin	-		A							
2		1	Process Emergency ShutDown Without Depressurizing(Activation of ESD-1 by time delay)	-		ESD-1	2	ESD 1	Process Emergency ShutDown Without Depressur	-		A							
3		1A	Confirmed Flammable Gas in fire zone (from F&G system)	-			3	ESD 2A	Train shut down With depressurizing			A							
4	D01		Deleted					BDV-2141	Gas Compressor Discharge Drum Blow Down Valve(Afte	BK-GCS-PEDCO-120-PR-PI-0012									
5	D01	1	Instrument Air Heade Pressure Low Low (2 out of 3 voting)	BK-GCS-PEDCO-120-PR-PI-0015(2/2)		PALL-2201 A/B/C	5	BDV-2151	Dehydration Package Blow Down Valve(After ESDV's clo	BK-GCS-PEDCO-120-PR-PI-0013		A							
6	D01	1A	Manually from Central Control Room (CCR) by time delay			PB-2102	8	-	Power Isolation In Process Area			A							
7		1A	**Process Emergency ShutDown With Depressurizing**	-		ESD 1A	10	XV-2110	Inlet Knock Out Drum Blow Down Valve(by time delay)	BK-GCS-PEDCO-120-PR-PI-0005			A	O	O	I	O	O	S
8								FST-2201	Air Blower	BK-GCS-PEDCO-120-PR-PI-0020	D01								
9							11	P-2203 A/B	Sump Pump	BK-GCS-PEDCO-120-PR-PI-0017	D01								
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نگهداشت و افزایش تولید میدان نفتی بینک
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شرکت توسعه پتروایران

HIRGAN ENERGY

شماره پیمان:
۰۵۳ – ۰۷۳ – ۹۱۸۴

CAUSE & EFFECT DIAGRAM

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	PEDCO	120	PR	CE	0001	D01

DESCRIPTION : ESD 1- Process Emergency ShutDown Without Depressurizing

EFFECT

CAUSE

No	Rev.	Level	DESCRIPTION	P & ID	Note	TAG No.	No	ESD 1	Deleted	ESD 2	ESD 3	PK-2207	ESDV-2102	ESDV-2101	ESDV-2142 ESDV-2143			
							NOTE		D01									
							P&ID	-	-	-	-	BK-GCS-PEDCO-120-PR-PI-0018	BK-GCS-PEDCO-120-PR-PI-0003	BK-GCS-PEDCO-120-PR-PI-0002	BK-GCS-PEDCO-120-PR-PI-0012			
							Equipment / Description	Process Emergency ShutDown Without Depressuriz		Train shut down Without depressurizing	Equipment shut down	Corrosion Inhibitor Package	Golkhari Inlet Gas Pipeline Shut Down Valve	Binak Inlet Gas Pipeline Shut Down Valve	OUTLET GAS Compression Discharge Drum (V-2103)			
1		1A	Process Emergency ShutDown With Depressurizing	-		ESD 1A	1	A										
2		1	Push Button in CCR	-		PB-2103	2	A										
3		1	Nitrogen Header Pressure Low Low	BK-GCS-PEDCO-120-PR-PI-0016		PALL-2211	3	A										
4	D01		Deleted				4											
5	D01	1	Flare ignition failure				5	A										
6		1	PCS Failure				6	A										
7	D01	1	High high Pressure pipe from sluge catcher to inlet K.O drum	BK-GCS-PEDCO-120-PR-PI-0005		PIT-2116	7	A										
8		1	High high liquid level inlet K.O drum	BK-GCS-PEDCO-120-PR-PI-0005		LAHH-2117	8	A										
9		1	Low Low Pressure Transfer Pipeline (Gas)	BK-GCS-PEDCO-120-PR-PI-0013(1/3)		PIT-2151	9	A										
10		1	Flare K.O. Drum Level High High (2 out of 3 voting)	BK-GCS-PEDCO-120-PR-PI-0020(2/3)		LIA2252A/B/C	10	A										
11		1	High high pressure (pipeline at inlet of sluge catcher drum)	BK-GCS-PEDCO-120-PR-PI-0004(1/2)		PIAHH-2111	11	A										
12		1	High high liquid level Slug Catcher Drum	BK-GCS-PEDCO-120-PR-PI-0004(1/2)		LA-2112	12	A										
13		1	High High liquid level in Gas Compression Discharge Drum	BK-GCS-PEDCO-120-PR-PI-0012		LAHH-2142	13	A										
14		1	DC charger failure				14	A										
15	D01		Deleted				15											
16		1	**Process Emergency ShutDown Without Depressurizing**				16	A		A	A	S/T	C	C	C			
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نگهداشت و افزایش تولید میدان نفتی بینک
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شرکت توسعه پتروایران

HIRGAN ENERGY

شماره پیمان:
۰۵۳ – ۰۷۳ – ۹۱۸۴

CAUSE & EFFECT DIAGRAM

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	PEDCO	120	PR	CE	0001	D01

DESCRIPTION : ESD 2A- Train shut down With depressurizing(train A)

EFFECT

No	TAG No.	Equipment / Description	P&ID	NOTE
1	ESD 2A	Train shut down With depressurizing (train A)	-	
2	ESD2	Train shut down Without depressurizing (train A)	-	
3	BDV-2134A	2Nd Stage Gas Compressor Suction Drum Blow Dow	BK-GCS-PEDCO-120-PR-PI-0009(1/3)	
4	BDV-2132A	2nd Satge Gas Compression Air Cooler Blow Down Valve	BK-GCS-PEDCO-120-PR-PI-0011	
5	BDV-2121A	1st Stage Gas Compressor Train A	BK-GCS-PEDCO-120-PR-PI-0007 (1/3)	D01

CAUSE

No	Rev.	Level	DESCRIPTION	P & ID	Note	TAG No.	No	ESD 2A	ESD2	BDV-2134A	BDV-2132A	BDV-2121A
1		1A	Process Emergency ShutDown With Depressurizing	-		ESD 1A	1	A				
2		2	Train shut down Without depressurizing (with time delay)	-	(Note 6)	ESD 2	2	A				
3		2A	Shut Down Push Button in CCR For Each Dedicated Train Of GCS	-		ESDR	3	A				
4		2A	Confirm fire in process area				7	A				
5		2A	Compressor failure signal form compressor package. (Depressurized Shutdown).	-			5	A				
6	D01		Deleted									
7	D01		Deleted									
8		2A	**Train A shutdown With Depressurizing**	-		ESD 2A	6		A	O	O	O
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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض
احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

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شرکت توسعه پتروایران

HIRGAN ENERGY

شماره پیمان:
۰۵۳ – ۰۷۳ – ۹۱۸۴

CAUSE & EFFECT DIAGRAM

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	PEDCO	120	PR	CE	0001	D01

DESCRIPTION : ESD 2A- Train shut down With depressurizing(train B)

EFFECT

No	Rev.	Level	DESCRIPTION	P & ID	Note	TAG No.	No	ESD 2A	ESD2	BDV-2134 B	BDV-2132 B	BDV-2121B
							TAG No.	ESD 2A	ESD2	BDV-2134 B	BDV-2132 B	BDV-2121B
							Equipment / Description	Train shut down With depressurizing(train A)	Train shut down Without depressurizing(train A)	2Nd Stage Gas Compressor Suction Drum Blow Do	2nd Satge Gas Compression Air Cooler Blow Down Valve(	1st Stage Gas Compressor Train B
							P&ID	-	-	BK-GCS-PEDCO-120-PR-PI-0009(2/3)	BK-GCS-PEDCO-120-PR-PI-0011 (2/3)	BK-GCS-PEDCO-120-PR-PI-0007 (2/3)
							NOTE					D01
1		1A	Process Emergency ShutDown With Depressurizing	-		ESD 1A	1	A				
2		2	Train shut down Without depressurizing (with time delay)	-	(Note 6)	ESD 2	2	A				
3		2A	Shut Down Push Button in CCR For Each Dedicated Train Of GCS	-		ESDR	3	A				
7		2A	Confirm fire in process area				7	A				
6	D01		Deleted									
7	D01		Deleted									
8		2A	**Train A shutdown With Depressurizing**	-		ESD 2A	6		A	O	O	O
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شرکت توسعه پتروایران

HIRGAN ENERGY

شماره پیمان:
۰۵۳ – ۰۷۳ – ۹۱۸۴

CAUSE & EFFECT DIAGRAM

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	PEDCO	120	PR	CE	0001	D01

DESCRIPTION : ESD 2A- Train shut down With depressurizing (Train C)

EFFECT

No	Rev.	Level	DESCRIPTION	P & ID	Note	TAG No.	No	TAG No.	Equipment / Description	P&ID	
											D01
											BK-GCS-PEDCO-120-PR-PI-0007 (3/3)
1		1A	Process Emergency ShutDown With Depressurizing	-		ESD 1A	1	ESD 2A	Train shut down With depressurizing (Train C)	-	
2		2	Train shut down Without depressurizing (with time delay)	-	(Note 6)	ESD 2	2	ESD2	Train shut down Without depressurizing (Train C)	-	
3		2A	Shut Down Push Button in CCR For Each Dedicated Train Of GCS	-		ESDR	3	BDV-2134 C	2Nd Stage Gas Compressor Suction Drum Blow Do	BK-GCS-PEDCO-120-PR-PI-0009 (3/3)	
4		2A	Confirm fire in process area				7	BDV-2132 C	2nd Satge Gas Compression Air Cooler Blow Down Valve	BK-GCS-PEDCO-120-PR-PI-0011 (3/3)	
5	D01		Deleted								
6	D01		Deleted								
7		2A	**Train C shutdown With Depressurizing**	-		ESD 2A	6	BDV-2121C	1st Stage Gas Compressor train C		
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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض
احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

شرکت توسعه پتروایران

HIRGAN ENERGY

شماره پیمان:
۰۵۳ – ۰۷۳ – ۹۱۸۴

CAUSE & EFFECT DIAGRAM

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	PEDCO	120	PR	CE	0001	D01

DESCRIPTION : ESD 2- Train shut down Without depressurizing (Train A)

EFFECT

No	Rev.	Level	DESCRIPTION	P & ID	Note	TAG No.	No	TAG No.	Equipment / Description	P&ID	NOTE
1		1	Process Emergency ShutDown Without Depressurizing	-		ESD 1	1	ESD 2	Train shut down Without depressurizing (Train A)	-	
2		2A	Train shut down With depressurizing(Train A)	-		ESD 2A	2	ESD2A	Train shut down With depressurizing (Train A)	-	
3		2	Compressor failure signal form compressor package (Pressurized Shutdown).	-			3	XV-2121A	Inlet 1st Stage Compressor 1st Stage Gas Compression Suction	BK-GCS-PEDCO-120-PR-PI-0006(1/3	
4		2	High High level in 1st Stage Gas Compression Suction Drum Train A	BK-GCS-PEDCO-120-PR-PI-0006(1/3)		LIAHH-2122	4	XV-2133A	outlet On/Off Valve 2nd Stage Gas Compressor Air Cooler (Train	BK-GCS-PEDCO-120-PR-PI-0011(1/3	
5		2	Low Low peressure in suction of 1st Stage Gas Compressor Train A	BK-GCS-PEDCO-120-PR-PI-0007(1/3)		PIA -2122A	6	C-2101A	1st stage gas compressor (Train A)	BK-GCS-PEDCO-120-PR-PI-000 7(1/3	
6		2	Low Low pressure in suction of 2nd Stage Gas Compressor Train A	BK-GCS-PEDCO-120-PR-PI-0010(1/3)		PIA-2132B	7	C-2102A	2nd stage gas compressor (Train A)	BK-GCS-PEDCO-120-PR-PI-0010(1/3	
7		2	High High Pressure in suction of 1ST Stage compressor Train A	BK-GCS-PEDCO-120-PR-PI-0007(1/3)		PIA-2122A	8				
8		2	High High Pressure in discharge of 1st Stage compressor Train A	BK-GCS-PEDCO-120-PR-PI-0007(1/3)		PIA-2125A	9				
9		2	High High Pressure in discharge of 2nd Stage compressor Train A	BK-GCS-PEDCO-120-PR-PI-0010(1/3)		PIA-2134B	10				
10		2	High High Temprature in dischage of 1st Stage compressor Train A	BK-GCS-PEDCO-120-PR-PI-0007(1/3)		TIAHH-2124A	11				
11		2	High High level in 2nd Stage Gas Compression Suction Drum Train A	BK-GCS-PEDCO-120-PR-PI-0009(1/3)		LIAHH-2132B	5				
12		2	High High Temprature in dischage of 2nd Stage compressor train A	BK-GCS-PEDCO-120-PR-PI-0010(1/3)		TIAHH-2134B	12				
13		2	Shut down push button in CCR for dedicated GCS Train A			ESDR	13				
14		2	High High Temprature in dischage of 1st Stage gas compressor air cooler Train A	BK-GCS-PEDCO-120-PR-PI-0008(1/3)		TIAHH-2125A	14				
15		2	High High Temprature in dischage of 2nd Stage gas compressor air cooler Train A	BK-GCS-PEDCO-120-PR-PI-0011(1/3)		TIAHH-2136A					
16		2	**Train shut down Without depressurizing (Train A)**			ESD 2	15	A(6)	C	C	T	T
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NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض
احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

شرکت توسعه پتروایران

HIRGAN ENERGY

شماره پیمان:
۰۵۳ – ۰۷۳ – ۹۱۸۴

CAUSE & EFFECT DIAGRAM

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	PEDCO	120	PR	CE	0001	D01

DESCRIPTION : ESD 2- Train shut down Without depressurizing (Train B)

EFFECT

CAUSE																		
No	Rev.	Level	DESCRIPTION	P & ID	Note	TAG No.	No	TAG No.	Equipment / Description	P&ID	NOTE							
1		1	Process Emergency ShutDown Without Depressurizing	-		ESD 1	1	ESD 2	Train shut down Without depressurizing (Train B)	-								
2		2A	Train shut down With depressurizing (Train B)	-		ESD 2A	2	ESD 3	Equipmen shutdown (Train B)	-								
3		2	Compressor failure signal form compressor package (Pressurized Shutdown).	-			3	XV-2121B	Inlet 1st Stage Compressor 1st Stage Gas Compression Suction	BK-GCS-PEDCO-120-PR-PI-0								
4		2	High High level in train A 1st Stage Gas Compression Suction Drum (Train B)	BK-GCS-PEDCO-120-PR-PI-0006(2/3)		LIAHH-2122A	4	XV-2133B	outlet On/Off Valve 2nd Stage Gas Compressor Air Cooler (Train	BK-GCS-PEDCO-120-PR-PI-0								
5		2	Low Low peressure in suction of 1st Stage Gas Compressor Train B	BK-GCS-PEDCO-120-PR-PI-0007(2/3)		PIA-2122A	6	C-2101B	1st stage gas compressor (Train B)	BK-GCS-PEDCO-120-PR-PI-0								
6		2	Low Low pressure in suction of 2nd Stage Gas Compressor Train B	BK-GCS-PEDCO-120-PR-PI-0010(2/3)		PIA-2132B	7	C-2102B	2nd stage gas compressor (Train B)	BK-GCS-PEDCO-120-PR-PI-0								
7		2	High High Pressure in suction of 1ST Stage compressor (Train B)	BK-GCS-PEDCO-120-PR-PI-0007(2/3)		PIA-2122A	8											
8		2	High High Pressure in discharge of 1st Stage compressor (Train B)	BK-GCS-PEDCO-120-PR-PI-0007(2/3)		PIA-2125A	9											
9		2	High High Pressure in discharge of 2nd Stage compressor (Train B)	BK-GCS-PEDCO-120-PR-PI-0010(2/3)		PIA-2134B	10											
10		2	High High Temprature in dischage of 1st Stage compressor (Train B)	BK-GCS-PEDCO-120-PR-PI-0007(2/3)		TIAHH-2124A	11											
11		2	High High level in train A 2nd Stage Gas Compression Suction Drum (Train B)	BK-GCS-PEDCO-120-PR-PI-0009(2/3)		LIAHH-2132B	5											
12		2	High High Temprature in dischage of 2nd Stage compressor (Train B)	BK-GCS-PEDCO-120-PR-PI-0010(2/3)		TIAHH-2134B	12											
13		2	Shut down push button in CCR for dedicated GCS (Train B)			ESDR	13											
14		2	High High Temprature in dischage of 1st Stage gas compressor air cooler (Train B)	BK-GCS-PEDCO-120-PR-PI-0008(2/3)		TIAHH-2125A	14											
15		2	High High Temprature in dischage of 2nd Stage gas compressor air cooler (Train B)	BK-GCS-PEDCO-120-PR-PI-0011(2/3)		TIAHH-2136A												
16		2	**Train shut down Without depressurizing (Train B)**			ESD 2	15	A	C	C	T	T						
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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض
احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

شرکت توسعه پتروایران

HIRGAN ENERGY

شماره پیمان:
۰۵۳ – ۰۷۳ – ۹۱۸۴

CAUSE & EFFECT DIAGRAM

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	PEDCO	120	PR	CE	0001	D01

DESCRIPTION : ESD 2- Train shut down Without depressurizing (Train C)

CAUSE

No	Rev.	Level	DESCRIPTION	P & ID	Note	TAG No.
1		1	Process Emergency ShutDown Without Depressurizing	-		ESD 1
2		2A	Train shut down With depressurizing(Train C)	-		ESD 2A
3		2	Compressor failure signal form compressor package (Pressurized Shutdown).	-		
4		2	High High level in 1st Stage Gas Compression Suction Drum Train C	BK-GCS-PEDCO-120-PR-PI-0006(3/3)		LIAHH-2122A
5		2	Low Low peressure in suction of 1st Stage Gas Compressor Train C	BK-GCS-PEDCO-120-PR-PI-0007(3/3)		PIA-2122A
6		2	Low Low pressure in suction of 2nd Stage Gas Compressor Train C	BK-GCS-PEDCO-120-PR-PI-0010(3/3)		PIA-2132B
7		2	High High Pressure in suction of 1ST Stage compressor Train C	BK-GCS-PEDCO-120-PR-PI-0007(3/3)		PIA-2122A
8		2	High High Pressure in discharge of 1st Stage compressor Train C	BK-GCS-PEDCO-120-PR-PI-0007(3/3)		PIA-2125A
9		2	High High level in 2nd Stage Gas Compression Suction Drum Train C	BK-GCS-PEDCO-120-PR-PI-0009(3/3)		LIAHH-2132B
10		2	High High Pressure in discharge of 2nd Stage compressor Train C	BK-GCS-PEDCO-120-PR-PI-0010(3/3)		PIA-2134B
11		2	High High Temprature in dischage of 1st Stage compressor Train C	BK-GCS-PEDCO-120-PR-PI-0007(3/3)		TIAHH-2124A
12		2	High High Temprature in dischage of 2nd Stage compressor Train C	BK-GCS-PEDCO-120-PR-PI-0010(3/3)		TIAHH-2134B
13		2	Shut down push button in CCR for dedicated GCS Train C			ESDR
14		2	High High Temprature in dischage of 1st Stage gas compressor air cooler Train C	BK-GCS-PEDCO-120-PR-PI-0008(3/3)		TIAHH-2125A
15		2	High High Temprature in dischage of 2nd Stage gas compressor air cooler Train C	BK-GCS-PEDCO-120-PR-PI-0011(3/3)		TIAHH-2136A
16		2	**Train shut down Without depressurizing(Train C)**			ESD 2
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EFFECT

No	TAG No.	Equipment / Description	P&ID	NOTE
1	ESD 2	Train shut down Without depressurizing(train C)	-	
2	ESD 3	Equipmen shutdown(train C)	-	
3	XV-2121C	Inlet 1st Stage Compressor 1st Stage Gas Compression Suctio	BK-GCS-PEDCO-120-PR-PI-0006(3/3)	
4	XV-2133C	outlet On/Off Valve 2nd Stage Gas Compressor Air Cooler train	BK-GCS-PEDCO-120-PR-PI-0011(1/3)	
5	C-2101C	1st stage gas compressor(Train C)	BK-GCS-PEDCO-120-PR-PI-0007(3/3)	
6	C-2102C	2nd stage gas compressor (Train C)	BK-GCS-PEDCO-120-PR-PI-0010(3/3)	
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نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

NISOC

شرکت توسعه پتروایران

HIRGAN ENERGY

شماره پیمان:
۰۵۳ – ۰۷۳ – ۹۱۸۴

CAUSE & EFFECT DIAGRAM

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	PEDCO	120	PR	CE	0001	D01

DESCRIPTION : ESD 3-EQUIPMENT SHUT DOWN

EFFECT

No	Rev.	Level	DESCRIPTION (CAUSE)	P & ID	Note	TAG No.
1		1	Process Emergency ShutDown Without Depressurizing	-		ESD 1
2		2	**Train shut down Without depressurizing**	-		ESD 2
3	D01	3	High high pressure at discharge pump-2101 A	BK-GCS-PEDCO-120-PR-PI-0004		PA-2116A
4	D01	3	**Equipment Shut Down P-2101**			ESD3
5	D01	3	High high pressure at discharge pump-2101 B	BK-GCS-PEDCO-120-PR-PI-0004		PA-2116B
6	D01	3	**Equipment Shut Down P-2101**			ESD3
7	D01	3	Low Low pressure at suction pump-2101 A	BK-GCS-PEDCO-120-PR-PI-0004		PA-2114A
8	D01	3	**Equipment Shut Down P-2101**			ESD3
9	D01	3	Low Low pressure at suction pump-2101 B	BK-GCS-PEDCO-120-PR-PI-0004		PA-2114B
10	D01	3	**Equipment Shut Down P-2101**			ESD3
11	D01	3	Low low pressure at condenste pipe line	BK-GCS-PEDCO-120-PR-PI-0004		PIA-2115
12	D01	3	**Equipment Shut Down P-2101**			ESD3
13		3	Low Low liquid level inlet K.O drum	BK-GCS-PEDCO-120-PR-PI-0005		LALL-2118
14		3	**Equipment Shut Down V-2105**			ESD 3
15		3	Low Low Liquid level at 1st Stage Gas Compression Suction Drum Train A	BK-GCS-PEDCO-120-PR-PI-0006(1/3)		LA-2122A
16		3	**Equipment Shut Down V-2101 A**			ESD 3
17		3	Low Low level in train A 2nd Stage Gas Compression Suction Drum Train A	BK-GCS-PEDCO-120-PR-PI-0009(1/3)		LALL-2132B
18		2	**Equipment Shut Down V-2101 A**			ESD 3
19	D01	3	Low Low Liquid level at 1st Stage Gas Compression Suction Drum Train B	BK-GCS-PEDCO-120-PR-PI-0006(1/3)		LA-2122A
20	D01	3	**Equipment Shut Down V-2101 B**			ESD 3
21	D01	3	Low Low level in train A 2nd Stage Gas Compression Suction Drum Train B	BK-GCS-PEDCO-120-PR-PI-0009(1/3)		LALL-2132B
22	D01	2	**Equipment Shut Down V-2101 B**			ESD 3
23	D01	3	Low Low Liquid level at 1st Stage Gas Compression Suction Drum Train C	BK-GCS-PEDCO-120-PR-PI-0006(1/3)		LA-2122A
24	D01	3	**Equipment Shut Down V-2101 C**			ESD 3
25	D01	3	Low Low level in train A 2nd Stage Gas Compression Suction Drum Train C	BK-GCS-PEDCO-120-PR-PI-0009(1/3)		LALL-2132B
26	D01	2	**Equipment Shut Down V-2101 C**			ESD 3
27		3	High motor vibration AE-2101A-M1	BK-GCS-PEDCO-120-PR-PI-0008(1/3)		VSHH-2121 A
28		3	**Equipment Shut Down AE-2101-M1**			ESD 3
29		3	High motor vibration AE-2101A-M2	BK-GCS-PEDCO-120-PR-PI-0008(1/3)		VSHH-2122A
30		3	**Equipment Shut Down AE-2101-M2**			ESD 3
31		3	High motor vibration AE-2102A-M1	BK-GCS-PEDCO-120-PR-PI-0011(1/3)		VSHH-2131 A
32		3	**Equipment Shut Down AE-2102-M1**			ESD 3
33		3	High motor vibration AE-2102-M2	BK-GCS-PEDCO-120-PR-PI-0011(1/3)		VSHH-2132 A
34		3	**Equipment Shut Down AE-2102-M2**			ESD 3
35		3	Low Low level in Gas Compression Discharge Drum	BK-GCS-PEDCO-120-PR-PI-0012		LALL2142
36		3	**Equipment Shut Down V-2103**			ESD 3
37		3	Low Low Liquid Level Of Lean Glaycol Storage Tank TK-2102	BK-GCS-PEDCO-120-PR-PI-0014		LALL-2161
38		3	**Equipment Shut Down P-2103**			ESD 3
39		3	Low Low Pressure Outlet of Air Compressor Package PK-C-2203 A/B	BK-GCS-PEDCO-120-PR-PI-0015(1/2)		PIALL-2202
40		3	**Equipment Shut Down P-2103**			
41		3	Low Low Liquid Level Close Drain Drum V-2202	BK-GCS-PEDCO-120-PR-PI-0017(2/2)		LALL-2222
42		3	**Equipment Shut Down P-2202**			ESD3
43	D01	3	**DELETED**			
44	D01	3	**DELETED**			
45		3	Low Low Liquid Level in Lp Flare K.O. Drum	BK-GCS-PEDCO-120-PR-PI-0020(2/3)		LIALL-2253
46		3	**Equipment Shut Down P-2201A/B**			ESD3
47	D01	3	High high Liquid Level in Fuel Gas K.O. Drum	BK-GCS-PEDCO-120-PR-PI-0022		LICAHH-2272
48		3	**Equipment Shut Down ESDV-2272**			ESD3
49		3	Low Low Liquid Level in Fuel Gas K.O. Drum	BK-GCS-PEDCO-120-PR-PI-0022		LICALL-2272
50		3	**Equipment Shut Down XV-2271**			ESD3
51	D01	3	Deleted			
52	D01	3	Deleted			

No	TAG	Equipment / Description	P&ID	NOTE
1	ESD 3	Equipment shut down	-	
2	ESD 3			
3	P-2101A			
4	ESD 3			
5	P-2101B			
6	ESD 3			
7	P-2101A			
8	ESD 3	Equipment shut down train		
9	ESDV-2113	V-2105 liquid outlet ESDV valve	BK-GCS-PEDCO-120-PR-PI-0005	
10	ESD 3	Equipment shut down		
11	XV-2122A	V-2101A liquid outlet ON/OFF valve	BK-GCS-PEDCO-120-PR-PI-0006(1/3)	
12	ESD 3	Equipment shut down		
13	XV-2131A	V-2102A liquid outlet ON/OFF valve	BK-GCS-PEDCO-120-PR-PI-0009(1/3)	
14	ESD 3	Equipment shut down		D01
15	XV-2122B	V-2101A liquid outlet ON/OFF valve	BK-GCS-PEDCO-120-PR-PI-0006(2/3)	D01
16	ESD 3	Equipment shut down		D01
17	XV-2131B	V-2102A liquid outlet ON/OFF valve	BK-GCS-PEDCO-120-PR-PI-0009(2/3)	D01
18	ESD 3	Equipment shut down		D01
19	XV-2122C	V-2101A liquid outlet ON/OFF valve	BK-GCS-PEDCO-120-PR-PI-0006(3/3)	D01
20	ESD 3	Equipment shut down		D01
21	XV-2131C	V-2102A liquid outlet ON/OFF valve	BK-GCS-PEDCO-120-PR-PI-0009(3/3)	D01
22	ESD 3	Equipment shut down AE-2101-M1		
23	AE-2101-M1	1st stage gas air cooler trainA-Motor1	BK-GCS-PEDCO-120-PR-PI-0008(1/3)	
24	ESD 3	Equipment shut down AE-2101-M2		
25	AE-2101-M2	1st stage gas air cooler trainA-Motor2	BK-GCS-PEDCO-120-PR-PI-0008(1/3)	
26	ESD 3	Equipment shut down AE-2102-M1		
27	AE-2102-M1	2nd stage gas air cooler trainA-Motor1	BK-GCS-PEDCO-120-PR-PI-0011(1/3)	
28	ESD 3	Equipment shut down AE-2102-M2		
29	AE-2102-M2	2nd stage gas air cooler trainA-Motor2	BK-GCS-PEDCO-120-PR-PI-0011(1/3)	
30	ESD 3	Equipment shut down V-2103		
31	XV-2144	Liquid Outlet Gas Compessin Discharge Drum On/Off Valve	BK-GCS-PEDCO-120-PR-PI-0012	
32	ESD 3	Equipment shut down Glycol Transfer Pump		
33	P-2103 A/B	Glycol Transfer Pump	BK-GCS-PEDCO-120-PR-PI-0014	
34	ESD 3	Equipment shut down		
35	ESDV-2201	Gas Outlet Of PK-C-2203 A/B ESDV Valve (To Plant Air)	BK-GCS-PEDCO-120-PR-PI-0015(1/2)	
36	ESD 3	Equipment shut down P-2202A/B		
37	P-2202 A/B	Close Drain Drum Pump	BK-GCS-PEDCO-120-PR-PI-0017(2/2)	
38	DELETED			D01
39	DELETED			D01
40	ESD 3	Equipment shut down	BK-GCS-PEDCO-120-PR-PI-0019	D01
41	P-2201 A/B	Lp Flare K.O Drum Pump	BK-GCS-PEDCO-120-PR-PI-0020(2/3)	
42	ESD 3	Equipment shut down		
43	ESDV-2272	Fuel Gas K.O. Drum (Inlet Line)	BK-GCS-PEDCO-120-PR-PI-0022	
44	ESD 3	Equipment shut down XV Valve		
45	XV-2271	Fuel Gas K.O. Drum	BK-GCS-PEDCO-120-PR-PI-0022	
46	ESD 3	Equipment shut down P-2206		
47	P-2206	Diesel Pump	BK-GCS-PEDCO-120-PR-PI-0023	

No	TAG	ESD 3	ESD 3	P-2101A	ESD 3	P-2101B	ESD 3	P-2101A	ESD 3	ESDV-2113	ESD 3	XV-2122A	ESD 3	XV-2131A	ESD 3	XV-2122B	ESD 3	XV-2131B	ESD 3	XV-2122C	ESD 3	XV-2131C	ESD 3	AE-2101-M1	ESD 3	AE-2101-M2	ESD 3	AE-2102-M1	ESD 3	AE-2102-M2	ESD 3	XV-2144	ESD 3	P-2103 A/B	ESD 3	ESDV-2201	ESD 3	P-2202 A/B	DELETED	DELETED	ESD 3	P-2201 A/B	ESD 3	ESDV-2272	ESD 3	XV-2271	ESD 3	P-2206
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