

NOTES

LEGEND

REFERENCE DRAWING	DRG. No.
FAC LOCATION EXISTING/PROPOSED	BR-QCS-FRDC-120-IN-DG-0001
REGISTRATION FOR FIRE & GAS SENSOR AND DETECTOR	BR-QCS-FRDC-000-IN-SP-0000
FIRE & GAS DETECTION DESIGN CENTRAL	BR-QCS-FRDC-120-IN-DC-0001
EOP LTRN. IMMEDIATELY	BR-QCS-FRDC-120-IN-DC-0003

KEY PLAN


# DOCUMENT TITLE: F&G CAUSE AND EFFECT DIAGRAM FOR BUILDINGS

REV.	DATE	DESCRIPTION	CHECKED BY	DATE	REV. APPR. BY	DATE
DOO	JUN 2022	IFC	PAUSANDEH MAMRASHAD		***	
REV.	DATE	P.O.I.S	PREP. CHK. APP. AUT.		***	

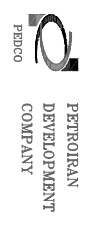
PROJECT NAME: **FINA OILFIELD DEVELOPMENT/SURFACE FACILITIES GAS COMPRESSOR STATION**

PROJECT NO.: **971020**

EPC CONTRACTOR: **EPD/EPC CONTRACTOR (GC):**



HIRSHAN ENERGY - DESIGN & INSPECTION COMPANIES



PETROBRAS DEVELOPMENT COMPANY

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.	APPROVED FOR CONSTRUCTION BY:	DATE:
A3		BR-QCS-FRDC-120-IN-DG-0010	01 OF 04	DOO		

(VENDOR TITLE BLOCK)\*\*

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED	APPROVED FOR CONSTRUCTION BY:	DATE:
	BUDGET REF. LOCATION/SIZE/CLASS	BY: SERIAL NO. SHEET REVISION
	0-53-073-0184 F 2 1	708983 4 DOO

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NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

DRAWING TITLE: **F&G CAUSE AND EFFECT DIAGRAM FOR BUILDINGS**

FINA OILFIELD DEVELOPMENT SURFACE FACILITIES GAS COMPRESSOR STATION

CHANGE RECORD SHEET

SHEET NO.	REVISION								
	D00	D01	D02	D03	D04	D05	D06	D07	D08
1	X								
2	X								
3	X								
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NOTES

LEGEND

REFERENCE DRAWING	DRG. No.
FAC LOCATION LAYOUT FOR BUILDINGS	BR-GCS-FR00-120-IN-PT-0006
ORGANIZATION FOR FIRE & GAS SENSOR AND DETECTORS	BR-GSM-FR00-000-IN-PT-0009
FIRE & GAS DETECTION DESIGN CRITERIA	BR-GCS-FR00-120-IN-DC-0001
EPI LAYOUT, IDENTIFICATION	BR-GCS-FR00-120-IN-DC-0003

KEY PLAN

REV.	DATE	DESCRIPTION	CHECKED	BY	DATE	REV. APPR.	DATE
***	*****	*****	***	*****	***	*****	*****

PROJECT NAME: BINAK OILFIELD DEVELOPMENT/SURFACE FACILITIES  
 GAS COMPRESSOR STATION  
 PROJECT NO.: 971020  
 EPC CONTRACTOR (GC): EPD/EPC CONTRACTOR (GC):  
 HIRSHAN ENERGY - DESIGN & INSPECTION COMPANIES  
 PETROBRAS DEVELOPMENT COMPANY  
 BINAK OILFIELD DEVELOPMENT SURFACE FACILITIES GAS COMPRESSOR STATION  
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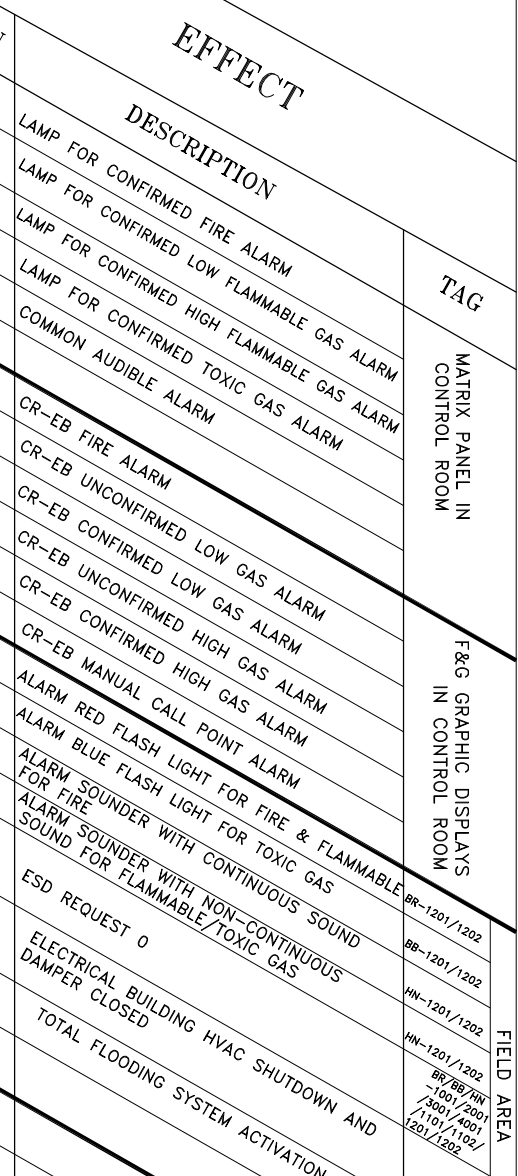
DRAWING TITLE: FAC CAUSE AND EFFECT DIAGRAM FOR BUILDINGS		DRAWING NO.		SHEET NO.		REV.	
SCALE	SIZE	BR-GCS-FR00-120-IN-DC-0010	02 OF 04	D00	0-53-073-0184	F	2
APPROVED FOR CONSTRUCTION BY:		DATE:		SERIAL NO.		SHEET REVISION	
BUDGET REF. LOCATION(SIZE) CLASS		709863		4		D00	

(VENDOR TITLE BLOCK)\*\*



## F&G CAUSE AND EFFECT DIAGRAM ELECTRICAL BUILDING

CAUSE	TAG	EFFECT																			
		DESCRIPTION																			
		TAG																			
DESCRIPTION	TAG	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
CONTROL BUILDING MANUAL ALARM CALL POINT ACTIVATION	MAC-1201~1203		X									X									
CONTROL BUILDING 20% LEL FLAMMABLE GAS DETECTION UNCONFIRMED (SINGLE DETECTION)	FGD-1201~1203																				
CONTROL BUILDING 20% LEL FLAMMABLE GAS DETECTION CONFIRMED (DOUBLE DETECTION)	FGD-1201~1203			X																	
CONTROL BUILDING 50% LEL FLAMMABLE GAS DETECTION UNCONFIRMED (SINGLE DETECTION)	FGD-1201~1203																				
CONTROL BUILDING 50% LEL FLAMMABLE GAS DETECTION CONFIRMED (DOUBLE DETECTION)	FGD-1201~1203										X										
CONTROL BUILDING 10 PPM TOXIC GAS DETECTION UNCONFIRMED (SINGLE DETECTION)	TGD-1201~1203																				
CONTROL BUILDING 10 PPM TOXIC GAS DETECTION CONFIRMED (DOUBLE DETECTION)	TGD-1201~1203			X																	
CONTROL BUILDING 20 PPM TOXIC GAS DETECTION UNCONFIRMED (SINGLE DETECTION)	TGD-1201~1203																				
CONTROL BUILDING 20 PPM TOXIC GAS DETECTION CONFIRMED (DOUBLE DETECTION)	TGD-1201~1203				X																
ELECTRICAL BUILDING CONTROL ROOM SMOKE DETECTION (SINGLE DETECTION)	SD-1201~1203							X													
ELECTRICAL BUILDING CONTROL ROOM SMOKE DETECTION (DOUBLE DETECTION)	SD-1201~1203		X																		
ELECTRICAL BUILDING FIRE DETECTION (SINGLE DETECTION) (BY LINEAR HEAT DETECTOR)	LHD-1201~1203								X												
ELECTRICAL BUILDING FIRE DETECTION (DOUBLE DETECTION) (BY LINEAR HEAT DETECTOR)	LHD-1201~1203		X																		



**NOTES**

- (OR)CONTROL ROOM MONITORING IS DEDICATED TO ALARMING ON F&G OPERATOR WORKSTATION.
- 2 DIFFERENT TONES TO BE SELECTED FOR HIGH AND BEACON ONE FOR FLAMMABLE/TOXIC GAS DETECTION(NON-CONTINUOUS) AND ONE FOR FIRE DETECTION (CONTINUOUS).
- DIFFERENT COLORS TO BE SELECTED FOR LIGHTS OF BEACONS:  
 RED FOR FIRE AND FLAMMABLE GAS DETECTION  
 BLUE FOR TOXIC GAS DETECTION  
 EB: ELECTRICAL BUILDING

**LEGEND**

**REFERENCE DRAWING**

F&G LOCATION LAYOUT FOR BUILDINGS	BR-QCS-F&GCO-120-IR-PP-0006	DRG. NO.
REGISTRATION FOR FIRE & GAS SENSOR AND DETECTOR	BR-QCS-F&GCO-060-IR-SP-0009	
FIRE & GAS DETECTION DESIGN CRITERIA	BR-QCS-F&GCO-120-IR-DC-0001	
END USER REQUIREMENT	BR-QCS-F&GCO-120-IR-DC-0003	

**KEY PLAN**

**REV. APPR.**

REV.	DESCRIPTION	BY	DATE	BY	DATE
**	*****	**	****	**	****
***	*****	***	****	***	****

**PROJECT INFORMATION:**

PROJECT NAME: BNAK OILFIELD DEVELOPMENT SURFACE FACILITIES GAS COMPRESSOR STATION

PROJECT NO.: 971020

EPD/EPIC CONTRACTOR (GC): PETROBRAS DEVELOPMENT COMPANY

HIRCAN ENERGY - DESIGN & INSPECTION COMPANIES: HIRCAN ENERGY

**SCALE AND SHEET INFORMATION:**

DRAWING TITLE:	F&G CAUSE AND EFFECT DIAGRAM FOR BUILDINGS	DRAWING NO.:	BR-QCS-F&GCO-120-IR-DC-0010	SHEET NO.:	04 OF 04
SCALE:	A3	REVISION:	0-53-073-0184	REVISION:	1 OF 4