






OWNER:  شرکت سست و سویی توهمه ایران (سهامی خاص)	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT	EPC CONTRACTOR:  Chagalesh-Enerchimi-Steam Joint Venture BUPC-MEG PLANT PROJECT																				
MC :   شرکت سست و سویی توهمه ایران (سهامی خاص)	CAUSE & EFFECT CHART LIST FOR NITROGEN GAS BOOSTER																					
Owner Document Number: 17811-27A	<table border="1" style="width: 100%; text-align: center;"> <tr> <th>Project</th> <th>Area</th> <th>Phase</th> <th>Unit</th> <th>Dis.</th> <th>Doc.</th> <th>Seq.</th> </tr> <tr> <td>BU</td> <td>20</td> <td>VD</td> <td>303</td> <td>PR</td> <td>LST</td> <td>0042</td> </tr> </table>	Project	Area	Phase	Unit	Dis.	Doc.	Seq.	BU	20	VD	303	PR	LST	0042	<table border="1" style="width: 100%; text-align: center;"> <tr> <td colspan="2">Contract No : 52-98/445</td> </tr> <tr> <td>Rev.:</td> <td>Page</td> </tr> <tr> <td>02</td> <td>1 of 4</td> </tr> </table>	Contract No : 52-98/445		Rev.:	Page	02	1 of 4
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CAUSE & EFFECT CHART LIST FOR NITROGEN GAS BOOSTER

Rev.	Date	Purpose of Issue	Prepared	Checked	Approved	AC Code		
02	06/12/2021	Approved for Construction	KP	JR	PW			
01	12/11/2021	For approval	AV	KP	PW			
00	15/09/2021	For approval	AV	KP	PW			
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Class: 1</td> <td style="padding: 2px;">Phase: P</td> </tr> </table>							Class: 1	Phase: P
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DOCUMENT TITLE: 17811-27A
Cause & Effect chart for Nitrogen Compressor

CAUSE				EFFECT	Tag. Number	N/A	N/A	XY-10151	XY-10152	XAL-108-2	XL-10153	XL-10158	XL-10154	XL-10159	PY-10151
Instrument Tag	Signal	Type	Description		Component	MOTOR START / STOP	HEATER START / STOP	LOAD / UNLOAD VALVE	WATER INLET VALVE	COMMON TRIP TO ESD	COMMON ALARM LAMP LCP	COMMON ALARM LAMP UCP	COMMON TRIP LAMP LCP	COMMON TRIP LAMP UCP	RECYCLE VALVE
CAUSE															
PB-10157	ESD	BUTTON	EMERGENCY SHUT DOWN UCP		SP	ST	DE	DE	X				X	X	
PB-10153	ESD	BUTTON	EMERGENCY SHUT DOWN LCP		SP	ST	DE	DE	X				X	X	
HS-108-SD-1	ESD	ESD	EMERGENCY SHUT DOWN ESD		SP	ST	DE	DE	X				X	X	
PB-10151	START	BUTTON	START COMPRESSOR LCP	Note 3	ST		E	E							ST
PB-10155	START	BUTTON	START COMPRESSOR UCP	Note 3	ST		E	E							ST
PB-10152	STOP	BUTTON	STOP COMPRESSOR LCP		SP	ST	DE	DE							
PB-10156	STOP	BUTTON	STOP COMPRESSOR UCP		SP	ST	DE	DE							
PIT-10153	TRANSMITTER	HH	PACKAGE INLET PRESSURE HIGH HIGH		SP		DE	DE	X				X	X	
PIT-10153	TRANSMITTER	LL	PACKAGE INLET PRESSURE LOW LOW		SP		DE	DE	X				X	X	
PIT-10154	TRANSMITTER	LL	COMPRESSOR OIL PRESSURE LOW LOW		SP		DE	DE	X				X	X	
PIT-10156	TRANSMITTER	H	COMPRESSOR 1st STAGE PRESSURE HIGH							X	X				
PIT-10156	TRANSMITTER	HH	COMPRESSOR 1st STAGE PRESSURE HIGH HIGH		SP		DE	DE	X				X	X	
PIT-10158	TRANSMITTER	CONTROL	COMPRESSOR OUTLET PRESSURE CONTROL	Note 2											C
PIT-10158	TRANSMITTER	CONTROL	PACKAGE OUTLET PRESSURE UNLOAD / STOP	Note 2	SP		DE	DE							
PIT-10158	TRANSMITTER	CONTROL	PACKAGE OUTLET PRESSURE LOAD / START	Note 2	ST		E								
PIT-10159	TRANSMITTER	HH	COMPRESSOR OUTLET PRESSURE HIGH HIGH		SP		DE	DE	X				X	X	
PIT-10159	TRANSMITTER	LL	COMPRESSOR OUTLET PRESSURE LOW LOW		SP		DE	DE	X				X	X	
TIT-10151	TRANSMITTER	H	COMPRESSOR INLET TEMPERATURE HIGH							X	X				
TIT-10152	TRANSMITTER	H	COMPRESSOR 1st STAGE TEMPERATURE HIGH							X	X				
TIT-10153	TRANSMITTER	HH	COMPRESSOR 1st STAGE TEMPERATURE HIGH HIGH		SP		DE	DE	X				X	X	
TIT-10154	TRANSMITTER	H	COMPRESSOR 2nd STAGE SUCTION TEMPERATURE HIGH							X	X				
TIT-10155	TRANSMITTER	HH	COMPRESSOR 2nd STAGE TEMPERATURE HIGH HIGH		SP		DE	DE	X				X	X	
FIT-10151	TRANSMITTER	L	COMPRESSOR COOLING WATER FLOW LOW							X	X				
VT-10151	TRANSMITTER	HH	COMPRESSOR 2nd STAGE SUCTION TEMPERATURE HIGH		SP		DE	DE	X				X	X	
N/A	MOTOR	CONTROL	MOTOR RUNNING FEEDBACK TRIP	Note 1	ST		DE	DE	X				X	X	
N/A	MOTOR	CONTROL	MOTOR FAULT		ST		DE	DE	X				X	X	
N/A	HEATER	CONTROL	HEATER RUNNING FEEDBACK ALARM							X	X				
N/A	HEATER	CONTROL	HEATER FAULT							X	X				



Legend:

ST = Start

SP = Stop

I = Interlock

X = Action

E = Energize

DE = De-energize

C = Control

NOTES:

1. MOTOR FEEDBACK TRIP, 2 SECOND AFTER START SIGNAL IS SEND AND MOTOR IS NOT SENDING FEEDBACK, THE PACKAGE IS TRIPPED
2. START AND STOP ON LOAD ON UNLOAD IS BASED ON THE TIMERS SPECIFIED IN THE CONTROL PHILOSOPHY
3. LOADING AFTER 30 SECONDS AFTER START AS PER CONTROL PHILOSOPHY
4. HEATER WILL BE STARTED WHEN COMPRESSOR IS STOPPED, TEMPERATURE WILL BE CONTROLLED AUTOMATICALLY FROM A SENSOR IN THE HEATER AND A CONTROLLER IN THE DISTRIBUTION PANEL

