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Emergency Response Plan Main Elements

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Dealing with Emergency Notification Procedures

01- Reset of Gas Flow in Natural Gas Axial Regulators

<i>Emergency Control Center</i>	
1	Receiving Notification Carry-out the emergency call chart and:
2	- Notify and directed the emergency team to the event place.
3	- Notify area shift and emergency engineers for evaluating the event and follow-up situation.
4	- Recording the event in emergency logbook.

<i>Emergency Team</i>	
1	Gradually Shut-off all valves (Inlet / Outlet Valves) with complete closing
2	Fixing flame trap in a suitable place at one of regulator outlet valves
3	Fixing a manometer 120 mbar on a measuring point for the regulator outlet
4	Closing of the 0.5-inch valve below the outlet valve
5	Screwing of regulator's active spring to the end point
6	Screwing of regulator's monitor spring to the end point
7	Screwing of regulator's relief spring to the end point
8	Screwing of regulator's slam-shut spring to the end point
9	Opening flame trap outlet valve
10	Opening the 0.5-inch active relief valve
11	Opening the gas inlet valve gradually and insure gas flow
12	Screwing of regulator's monitor spring and follow-up pressure on manometer to reach the pressure needed to shut-off
13	Unplugging the slam-shut spring until it closed to reach closing set, this is the closing pressure, and repeat this process to make sure the lock at the desired pressure



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14	Unplugging the monitor spring and follow-up manometer reading until it reaches the pressure required for the relief spring
15	Unplugged the relief spring and using of water / soap solution on relief opening until the gas comes out, so that is the pressure of the relief
16	Unplugged the monitor spring until reaching the required pressure for the monitor
17	Opening the 0.5-inch valve below the outlet valve
18	Unplugged the active spring to reach the required operating pressure
19	Opening the regulator's outlet valve gradually to flow the gas into the network
20	Checking any gas leak on all regulator part



02- Inspecting 1000 m³ / hour Natural Gas Axial Regulator's Filter

Emergency Control Center

- 1 Receiving Notification
Carry-out the emergency call chart and:
- 2 - Notify and directed the emergency team to the event place.
- 3 - Notify area shift and emergency engineers for evaluating the event and follow-up situation.
- 4 - Recording the event in emergency logbook

Emergency Team

- 1 Monitor meter reading for the pressure differences on the filter
- 2 In case of pressure differences reading this will need the following steps:
 - 2/1 Gradually close the inlet valve
 - 2/2 Gradually close the outlet valve
 - 2/3 Close the 1-inch active, monitor and slam-shut valves
 - 2/4 Fixing flame trap on the venting valve
 - 2/5 Burge the gas inside the regulator
 - 2/6 Open the filter gate and remove the filter
 - 2/7 Clean the filter or replace it if needed
 - 2/8 Return the filter to its place
 - 2/9 Inspect the filter's gate gasket and replace it if needed
 - 2/10 Close the filter's gate
 - 2/11 Gradually open the inlet valve to purge the air partially
 - 2/12 Close the venting valve
 - 2/13 Gradually close the 0.5-inch valve on outlet
 - 2/14 Gradually open the inlet valve (full open)
 - 2/15 Gradually open the outlet valve (full open)
- 3 Testing all parts that opened using water / soap solution



03- In Case of High Pressure Pipeline Crack / Leak

Emergency Control Center

- | | |
|---|---|
| 1 | Receiving Notification
Carry-out the emergency call chart and: |
| 2 | - Notify and directed the emergency team to the event place. |
| 3 | - Notify area shift and emergency engineers for evaluating the event and follow-up situation. |
| 4 | - Notify the concerned parties (Rescue Police and Civil Protection) if needed. |
| 5 | - Recording the event in emergency logbook. |

Shift / Emergency Engineers arrange and communicate for

- | | |
|---|---|
| 1 | Communication with Top Management for Main Line Gas Isolation "If Needed" |
| 2 | Shut-off Natural Gas for Top Customers |
| 3 | Raising area PRMS outlet Pressure |
| 4 | Raising pressure for high-pressure regulators to reach the maximum pressure capacity over the emergency event area. |

Emergency Team

- | | |
|-----|--|
| 1 | Review of pipeline isolation maps and isolate of the valves before and after release part. |
| 2 | Preparing area for excavation to inspect the buried pipeline and secure the area by using: |
| 2/1 | Barricading |
| 2/2 | Warning signs |
| 2/3 | Fire extinguishers distribution |
| 3 | Providing temporary isolation (by using release isolators) |
| 4 | Notify the maintenance team for fixing the cracked part |
| 5 | Monitoring of the high-pressure network to take the necessary action for re-feeding gas. |



04- In Case of High Pressure Pipeline Gas Leak With Fire

Emergency Control Center

- | | |
|---|---|
| 1 | Receiving Notification
Carry-out the emergency call chart and: |
| 2 | - Notify and directed the emergency team to the event place. |
| 3 | - Notify area shift and emergency engineers for evaluating the event and follow-up situation. |
| 4 | - Notify the concerned parties - Rescue Police and Civil Protection |
| 5 | - Recording the event in emergency logbook. |

Shift / Emergency Engineers arrange and communicate for

- | | |
|---|---|
| 1 | Communication with Top Management for Main Line Gas Isolation "If Needed" |
| 2 | Shut-off Natural Gas for Top Customers |
| 3 | Raising area PRMS outlet Pressure |
| 4 | Raising pressure for high-pressure regulators to reach the maximum pressure capacity over the emergency event area. |

Emergency Team

- | | |
|-----|--|
| 1 | Partial isolation for area valves to control the fire. |
| 2 | Fighting the fire with Civil Protection team |
| 3 | Preparing area for excavation to inspect the buried pipeline and secure the area by using: |
| 3/1 | Barricading |
| 3/2 | Warning signs |
| 3/3 | Fire extinguishers distribution |
| 4 | Providing temporary isolation (by using release isolators) |
| 5 | Notify the maintenance team for fixing the cracked part |
| 6 | Monitoring of the high-pressure network to take the necessary action for re-feeding gas. |



05- In Case of Medium Pressure Pipeline Crack / Leak

Emergency Control Center

- | | |
|---|---|
| 1 | Receiving Notification
Carry-out the emergency call chart and: |
| 2 | - Notify and directed the emergency team to the event place. |
| 3 | - Notify area shift and emergency engineers for evaluating the event and follow-up situation. |
| 4 | - Notify the concerned parties (Rescue Police and Civil Protection) if needed. |
| 5 | - Recording the event in emergency logbook. |

Shift / Emergency Engineers arrange and communicate for

- | | |
|---|--|
| 1 | Communication with Top Management for Main Line Gas Isolation "If Needed" |
| 2 | Raising pressure for low pressure regulators feeding the network to reach 105 mbar |

Emergency Team

- | | |
|-----|--|
| 1 | Review of pipeline isolation maps and isolate of the valves before and after release part. |
| 2 | Preparing area for excavation to inspect the buried pipeline and secure the area by using: |
| 2/1 | Barricading |
| 2/2 | Warning signs |
| 2/3 | Fire extinguishers distribution |
| 3 | Providing temporary isolation (by using release isolators) |
| 4 | Notify the maintenance team for fixing the cracked part |
| 5 | Monitoring of the medium-pressure network to take the necessary action for re-feeding gas |



06- In Case of Medium Pressure Pipeline Leak With Fire

Emergency Control Center

- | | |
|---|---|
| 1 | Receiving Notification
Carry-out the emergency call chart and: |
| 2 | - Notify and directed the emergency team to the event place. |
| 3 | - Notify area shift and emergency engineers for evaluating the event and follow-up situation. |
| 4 | - Notify the concerned parties - Rescue Police and Civil Protection |
| 5 | - Recording the event in emergency logbook. |

Shift / Emergency Engineers arrange and communicate for

- | | |
|---|---|
| 1 | Communication with Top Management for Main Line Gas Isolation "If Needed" |
|---|---|

Emergency Team

- | | |
|-----|--|
| 1 | Partial isolation for area valves to control the fire. |
| 2 | Fighting the fire with Civil Protection team |
| 3 | Preparing area for excavation to inspect the buried pipeline and secure the area by using: |
| 3/1 | Barricading |
| 3/2 | Warning signs |
| 3/3 | Fire extinguishers distribution |
| 4 | Providing temporary isolation (by using release isolators) |
| 5 | Notify the maintenance team for fixing the cracked part |
| 6 | Monitoring of the medium-pressure network to take the necessary action for re-feeding gas |



07- In Case of Low Pressure Pipeline Crack / Leak

Emergency Control Center

- | | |
|---|---|
| 1 | Receiving Notification
Carry-out the emergency call chart and: |
| 2 | - Notify and directed the emergency team to the event place. |
| 3 | - Notify area shift and emergency engineers for evaluating the event and follow-up situation. |
| 4 | - Notify the concerned parties (Rescue Police and Civil Protection) if needed. |
| 5 | - Recording the event in emergency logbook. |

Shift / Emergency Engineers arrange and communicate for

- | | |
|---|---|
| 1 | Communication with Top Management for Main Line Gas Isolation "If Needed" |
|---|---|

Emergency Team

- | | |
|-----|---|
| 1 | Determining the leak point or crack by using the GascoSeeker in case of not determined by any one |
| | Review of pipeline isolation maps and isolate of the valves before and after release part. |
| 2 | Preparing area for excavation to inspect the buried pipeline and secure the area by using: |
| | 2/1 Barricading |
| | 2/2 Warning signs |
| 2/3 | Fire extinguishers distribution |
| 3 | Providing temporary isolation by using hand or mechanical squeezers to stop the gas leak |
| 4 | Notify the maintenance team for fixing the cracked part |
| 5 | Monitoring of the medium-pressure network to take the necessary action for re-feeding gas |



08- In Case of Low Pressure Single Pipeline Crack / Leak

Emergency Control Center

- | | |
|---|---|
| 1 | Receiving Notification
Carry-out the emergency call chart and: |
| 2 | - Notify and directed the emergency team to the event place. |
| 3 | - Notify area shift and emergency engineers for evaluating the event and follow-up situation. |
| 4 | - Notify the concerned parties (Rescue Police and Civil Protection) if needed. |
| 5 | - Recording the event in emergency logbook. |

Shift / Emergency Engineers arrange and communicate for

- | | |
|---|---|
| 1 | Communication with Top Management for Main Line Gas Isolation "If Needed" |
|---|---|

Emergency Team

- | | |
|-----|---|
| 1 | Determining the leak point or crack by using the GascoSeeker in case of not determined by any one |
| 2 | Review of pipeline isolation maps and isolate of the valves before and after release part. |
| 3 | Preparing area for excavation to inspect the buried pipeline and prepare axial rout with secure the area by using: |
| 3/1 | Barricading |
| 3/2 | Warning signs |
| 3/3 | Fire extinguishers distribution |
| 4 | Providing temporary isolation by using hand or mechanical squeezers to stop the gas leak |
| 5 | Isolating the natural gas feeding from the housing) incase of gas Interruption the emergency team will isolate the land branches from the buildings and return back after finalizing the maintenance) |
| 6 | Notify the maintenance team for fixing the cracked part |
| 7 | Monitoring of the medium-pressure network to take the necessary action for re-feeding gas |



09- In Case of Service Branch Crack / Leak

Emergency Control Center

- 1 Receiving Notification
Warning notifier to be away from the crack or leak place and avoid any naked flame near or around the area
- Carry-out the emergency call chart and:
 - 2 - Notify and directed the emergency team to the event place.
 - 3 - Notify area shift and emergency engineers for evaluating the event and follow-up situation.
 - 4 - Notify the concerned parties (Rescue Police and Civil Protection) if needed.
 - 5 - Recording the event in emergency logbook.

Shift / Emergency Engineers arrange and communicate for

- 1 Communication with Top Management for Main Line Gas Isolation "If Needed"

Emergency Team

- 1 Protecting and secure the area from any source of ignition and calm and reassure the public
- 2 Securing the case and notifying the population by temporary shut-off the gas feeding
- 3 Fixing the crack or the case shall continue to be secured and communication shall be transferred to the responsible department to complete repair work
- 4 Assessing situation to determine the event responsibility (Misleading or not)
- 5 Giving warning to the population to take the necessary action to avoid reoccur as a dangerous situation
- 6 A report of the incident shall be made after a case recorded to take necessary legal actions



10- In Case of Fixtures Crack Inside the House

Emergency Control Center

- 1 Receiving Notification
Warning notifier to be away from the crack or leak place and avoid any naked flame near or around the area
- Carry-out the emergency call chart and:
 - 2 - Notify and directed the emergency team to the event place.
 - 3 - Notify area shift and emergency engineers for evaluating the event and follow-up situation.
 - 4 - Notify the concerned parties (Rescue Police and Civil Protection) if needed.
 - 5 - Recording the event in emergency logbook.

Shift / Emergency Engineers arrange and communicate for

- 1 Communication with Top Management for Main Line Gas Isolation "If Needed"

Emergency Team

- 1 Protecting and secure the area from any source of ignition and calm and reassure the public
- 2 Securing the case and notifying the population by temporary shut-off the gas feeding
- 3 Fixing the crack or the case shall continue to be secured and communication shall be transferred to the responsible department to complete repair work
- 4 Assessing situation to determine the event responsibility (Misleading or not)
- 5 Giving warning to the population to take the necessary action to avoid reoccur as a dangerous situation
- 6 A report of the incident shall be made after a case recorded to take necessary legal actions



11- In Case of Fixtures Crack (Internal / External / Device Connection)

Emergency Control Center

- 1 Receiving Notification
Inform the reporter by:
shut-off the internal main valve
open the windows
not to turn on or off any lights
no naked flame
- Carry-out the emergency call chart and:
- 2 - Notify and directed the emergency team to the event place.
- 3 - Notify area shift and emergency engineers for evaluating the event and follow-up situation.
- 4 - Notify the concerned parties (Rescue Police and Civil Protection) if needed.
- 5 - Recording the event in emergency logbook.

Shift / Emergency Engineers arrange and communicate for

- 1 Communication with Top Management for Main Line Gas Isolation "If Needed"

Emergency Team

- 1 Protecting and secure the house from any source of ignition and ask for the source of the gas smell (in / or outside)
- 2 Detecting the gas and determining the source from all connections
- 3 Using the GascoSeeker to determine the higher gas ratio
- 4 Determining the source and fixing it the retest the connections
- 5 In case of not determining the gas leak, the team secure the place, started to detect the gas in each unit, and notifying the Emergency Control Room to call the maintenance team to review all gas connection started from the main gas pipeline
- 6 If the gas ratio exceeding 1 % the maintenance team will shut-off the gas from the hall building
- 7 If there is no gas leak detected, maintenance team return the gas flow again



Emergency Report Form

<i>Date</i>		<i>Time</i>		<i>Type</i>			
<i>Address</i>							
<i>Injuries</i>							
<i>Name</i>	<i>P.R No.</i>	<i>Age</i>	<i>Dept.</i>	<i>Job Title</i>	<i>Exp.</i>	<i>Duration in The Comp.</i>	
<i>Equipment / Materials Damaged</i>							
<i>Injury Type</i>		<i>Origin Injured</i>					
<i>Accident Description</i>							
<i>Equipment Related to Accident</i>							
<i>Natural Conditions Prevailing in Accident / Injury</i>							
<i>Temperature</i>		<i>Wind Status</i>		<i>Light</i>		<i>Noise</i>	
<i>Accident Reasons</i>	<i>Unsafe Acts</i>			<i>Unsafe Conditions</i>			
<i>PPE</i>	<i>Not available</i>		<i>Wrong Use</i>		<i>Not Used</i>		
<i>Accident Witnesses</i>							
<i>Name</i>	<i>P.R No.</i>	<i>Age</i>	<i>Job Title</i>	<i>Department</i>			
<i>Team Leader Opinion (Accident / Injury)</i>							
<i>Job Supervisor Opinion (Accident / Injury)</i>							
<i>HSE Opinion (Accident / Injury)</i>							
<i>Actions Taken / Needed to Prevent Re-occurrence</i>							

Report No:

Copy To:

Attachments:

Prepared By

Name

Signature