



الشركة العمانية للغاز الطبيعي المسال ش.م.م.
Oman LNG L.L.C.

PROCEDURE FOR THE CONTROL OF IGNITION SOURCES IN THE PLANT

This document contains 9 pages

Documents Classification:-

By default all documents will be categorized as (Non-critical / confidential unless otherwise specified)

Risk Classification

Critical

Security Classification

Unclassified

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ISSUE HISTORY

Changes from previous issue are indicated in the table below

Issue	Description	Date
0	Draft Issue for comments	12/03/2006
1	First issue	18/04/2006
2	Review	22/07/2009
3	Due for Revision	11/02/2014
4	<p>This update is an outcome of health check on HSE critical activity & to remove Shut-off valve as a requirement for the mobile equipments powered by internal combustion engines requiring entry in operational area According to the latest organizational restructuring, the inspection responsibility has changed from QEN/3 to the following:</p> <ol style="list-style-type: none"> 1- The portable electrical equipment inspection and approval is carried out by a Competent Electrical Person (CEP) under QEN/14 2- The Welding generators, Mobile air compressors, Power generators inspection and approval is carried out by QEN/14 3- The Vehicles - cars, vans inspection and approval is by QHSE/2. The lorries, forklift, cranes, articulated trucks inspection and approval is carried out by QEN/14 4- The Ex Mobile (GSM) inspection and approval is carried out by IT/24 	09/03/2017

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1. Purpose

To safeguard the OLNG/ QLNG production facilities against uncontrolled / unauthorized ignition sources

2. Scope

The procedure is applicable to the Manufacturing Complex within the safety perimeter.

3. Definitions

3.1. Hazardous Area

Hazardous Areas are locations where the potential for fire or explosion exists because of gases, dust, or easily ignitable fibers in the atmosphere.

3.2. Ignition source

Any source that can generate a spark with sufficient strength to ignite an explosive mixture

3.3. Hot Permit Control Area

The fire permit control area is the whole area within the safety perimeter fence

3.4. Explosion proof apparatus

Apparatus enclosed in a case that is capable of withstanding an explosion of a specified gas or vapour that may occur within it and of preventing the ignition of a specified gas or vapour surrounding the enclosure by sparks, flashes, or explosion of the gas or vapour within and that operates at such an external temperature that a surrounding flammable atmosphere will not be ignited thereby.

3.5. Intrinsically safe apparatus

Apparatus in which all the circuits are intrinsically safe

3.6. Intrinsically safe circuit

A circuit in which any spark or thermal effect is incapable of causing ignition of a mixture of flammable or combustible material in air under prescribed test conditions

3.7. Intrinsically Safe (IS)

Intrinsically safe means a device is safe to use in hazardous areas that may contain fuel in the atmosphere, such as flammable gasses or vapours, or combustible dust. An intrinsically safe device is therefore incapable of releasing sufficient electrical or thermal energy to ignite the fuel and cause fire or explosion.

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3.8. Explosion proof (EX)

An enclosure for electrical machinery or apparatus that will withstand, when the covers or other access doors are properly secured, an internal explosion of the flammable gas or vapour which may enter or which may originate inside the enclosure, without suffering damage and without allowing the explosion or hot gases to escape through any joints or other structural openings in the enclosure. The term "explosion-proof" does not indicate that the product is capable of withstanding an external explosion

4. Responsibilities

4.1. IT/24

Responsible for the inspection, registration, and approval of EX mobiles (GSM).

4.2. QEN/4

Responsible for inspection, registration and approval of the instrument testing equipment and portable analyzers.

4.3. QOP

Responsible to approve vehicle pass applications for entry into plant area before it's brought to QHSE/2 or QEN/14 for inspection and to issue a gate pass sticker. This is to control the number of vehicles allowed for entry to the plant area.

4.4. QHSE

Responsible to inspect and issue gate pass stickers for light vehicles having vehicle pass applications approved by QOP. Heavy vehicles are to be inspected by QEN/14 before QHSE/2 issues Gate Pass Stickers.

4.5. QEN/14

Responsible to inspect Heavy Vehicles before issue of annual gate pass stickers by QHSE/2 Section for checking, registration, and approval of welding generators, Mobile air compressors, Power generators, lorries, cranes, fork lift trucks, and mobile air compressors.

4.6. QOP/1

Responsible for the preparation and issuing of PTW for the operational area. In addition, QOP/1 is also responsible for gas testing where applicable.

Should any of the above parties need any help or advice or have doubt on any electrical equipment classed as an ignition source they should contact QEN/3 personnel

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5. Procedure

Only approved ignition sources may be taken into the Hot Permit Control Area. To this end, all ignition sources must be inspected and registered. An 'approved' sticker / label will then be given. Refer appendix 7.1

The table of ignition sources is shown below. In general the approach is:

1. Ignition source identified
2. Inspection by relevant discipline
3. Registration
4. Approval indicated by sticker
5. Permit from QOP staff to use in the plant.

In the case of Torches, gas testers, dew point meters and GSM, a permit will not be issued but Security, QHSE, and QOP staff will make regular ad hoc checks. Persons breaking the Company rules will be subject to disciplinary procedure as defined in the OPPM.

All Light Vehicles, Heavy Vehicles and Buses will be inspected by responsible parties using checklists provided in [Oman LNG Road Safety Procedure NG-P005](#) Appendix 2b, 3b and 4b for LV, HV and Buses respectively

Mobile equipment powered by internal combustion engines requiring entry in operational area are to be fitted with exhaust spark arrestor. Any exceptions will require QCM approval.

Ignition sources **must not** be left switched on or in operation unsupervised within the Fire Permit Control Area. They **must** be switched off immediately in an emergency or on the instructions of any Operating Technician or other authorized personnel.

6. References

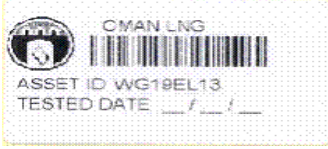
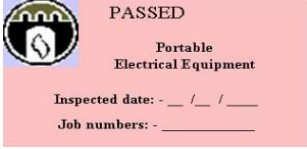



- [QEN-P310 Electrical Safety Rules](#)

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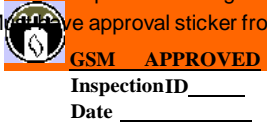
7. Appendices

7.1. Table of ignition sources and control mechanisms

<p>Portable electrical equipments e.g. Extension leads, Hand held tools like drilling M/C, Grinding M/C, portable transformers, etc.,</p>	<ul style="list-style-type: none"> Inspection and approval by QEN/14 for OLANG equipments  <ul style="list-style-type: none"> Approval sticker from QEN/14 for contractor equipment  <ul style="list-style-type: none"> Fire and Safety permit from QOP/1 staff General clearance certificate plus gas test
<p>Welding generators, Mobile air compressors, Power generators</p>	<ul style="list-style-type: none"> Inspection and approval by QEN/14  <ul style="list-style-type: none"> Fire and Safety permit from QOP/1 staff General clearance certificate plus gas test Welding generators must not be used with power outlet sockets for power tools
<p>Vehicles - cars, vans, lorries, forklift, cranes, articulated trucks</p>	<ul style="list-style-type: none"> Mechanical Inspection and approval from QEN/14 for forklift, lorries, cranes, mobile elevated platforms, articulated trucks. QEN/14 issues the inspection sticker.  <p>Note: the above is not required for cars, pick-ups, vans and buses. Crane must have valid certificate of worthiness & Crane driver must have valid certificate of competency</p> <ul style="list-style-type: none"> General inspection of light vehicles by QHSE/2 Section prior to issue gate pass for cars, pick-ups, vans and light buses. <ul style="list-style-type: none"> General inspection of heavy vehicles by QEN/14 prior to issue gate pass from QHSE/2 Section Approval sticker from QHSE/2 for gate pass for all vehicles (Note Current colour can be ascertained from QHSE/2)  <ul style="list-style-type: none"> Fire and Safety permit from QOP/1 staff General clearance certificate plus gas test
<p>Mobile equipment "unfit" for entry</p>	<p>In the event of ad-hoc checks where any equipment is found unfit; the equipment to be reported to the respective inspection party (focal point). Equipments failing the inspections to be tagged (see below specimen) and removed back to workshop for repairs & re-inspection.</p>



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Torches	<ul style="list-style-type: none"> Must be suitable for a hazardous area and should be as per the site minimum standard - Should read EEx IIA T4 as printed on the equipment label – refer Appendix 7.2. AD Hoc inspections by QEN/3 / QHSE / QOP / CSA staff – no sticker required
Igniters for flame cutting equipment	<ul style="list-style-type: none"> Fire and Safety permit from QOP/1 staff General clearance certificate plus gas test
Ex Mobile (GSM)	<ul style="list-style-type: none"> Must be inspected and registered by IT/24 Must have approval sticker from IT/24  <ul style="list-style-type: none"> Must conform to the following standard or higher- Should read EEx IIA T4 as printed on the equipment label – refer Appendix 7.2 In the event of any damage; the user must return the GSM to QEN/3 for re-inspection. QEN/3 will identify whether the Ex classification is breached and as a result will discard the GSM from being used by removing the sticker and taking it away. The user will have to initiate procurement for a replacement mobile.
Otter handheld terminal Pager	<ul style="list-style-type: none"> Inspection by the user Must conform to the following standard or higher - Should read EEx IIA T4 as printed on the equipment label – refer Appendix 7.2 Ad Hoc inspections by QEN/3/4 In the event of any damage; the user must return the GSM to QEN/3 for re-inspection. QEN/3 will identify whether the Ex classification is breached and as a result will discard the GSM from being used by removing the sticker and taking it away. The user will have to initiate procurement for a replacement mobile.
Ex portable instrument testing equipments e.g. Pressure calibrator, Temperature calibrator, Vibration monitoring etc.	<ul style="list-style-type: none"> Inspection by the user Must conform to the following standard or higher - Should read EEx IIA T3 as printed on the equipment label – refer Appendix 7.2 Ad Hoc inspections by QEN/3/4 In the event of any damage; the user must return the equipment to QEN/3/4 for re-inspection. QEN/3/4 will identify whether the Ex classification is breached and as a result will discard it from being used and taking it away. The user will have to initiate procurement for replacement equipment.
Other non Ex equipment e.g. Camera, Conductivity analyser, pH meter, Chlorine analyser, Noise meter, Light meter	<ul style="list-style-type: none"> Permit from QOP staff. (Note that for cameras, there is a special photography permit to be signed by QOP) Fire and Safety permit from QOP/1 staff Gas test prior to use by QOP/1 staff.
EX portable analyzers: e.g. Dew point meter, gas testers	<ul style="list-style-type: none"> Inspection by QEN/43 No permit required Must conform to the following standard or higher- Should read EEx IIA T3 as printed on the equipment label – refer Appendix 7.2 In the event of any damage; the user must return the equipment to QEN/43 for re-inspection. QEN/43 will identify whether the Ex classification is breached and as a result will discard it from being used and taking it away. The user will have to initiate procurement for replacement equipment.



Exceptions are: - Electronic watches and hearing aids; these items must not be opened within the area and do not require a permit prior to entry in the plant area.

7.2. Hazardous atmosphere equipment markings

