

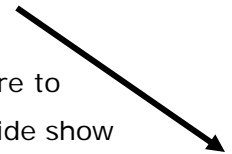


Gulf of Mexico Hot Work Safe Work Practice

**KnowledgePlanet
Awareness & Quiz**

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Hot Work Guidelines

Purpose & Objectives

- Intended to describe procedures, methods and practices associated with all hot work activities in Chevron's production and drilling operations.
- Primary objectives are to:
 - Safeguard against explosion and fire during performance of hot work activities.
 - Provide for protection of personnel and equipment.
 - Establish uniform procedures for issuing Hot Work permits.

Hot Work Guidelines

Scope

- The Hot Work Guidelines are made up of the approved MMS Welding Plan, Chevron Non-Welding Hot Work Plan, and applicable United States Coast Guard (USCG) requirements.
- Applies to all hot work activities performed at locations which fall under the Chevron Gulf of Mexico Area Of Responsibility (AOR). These areas include:
 - Land-Based Facilities
 - Waterfront Facilities
 - State Waters
 - OCS Operations

Hot Work Guidelines

Hot Work Classifications

Hot Work is classified in the following categories

- Welding, burning and associated grinding
- Non-welding hot work (all other ignition sources)

Hot Work Guidelines

Procedures

- A copy of the MMS Welding Plan with the approval letter must be available at each work site while performing welding and burning activities.
- Persons overseeing hot work activities, such as Chevron PIC's or Designee, On-Site Reviewers, Welding Supervisors, etc., must be thoroughly familiar with the MMS Welding Plan and Chevron's Hot Work Guidelines.

Hot Work Guidelines

Procedures

- As of February 5, 1997, a USCG Welding Hot Work Permit is no longer required at applicable state locations. Conformity with Chevron Hot Work Guidelines and the information that follows meet the requirements contained in the regulation.
- Welding, Hot Work And Hot Work During Gas Freeing Operations Are Prohibited:
 - Within 100 feet of bulk cargo operations involving flammable or combustible materials
 - Within 100 feet of fueling operations
 - Within 50 feet of other hazardous materials

Hot Work Guidelines

Confirmation That it is Safe to Weld

- The following personnel must confirm that it is safe to conduct welding operations by ensuring that the work site, including the equipment to be used, have been inspected:
 - Chevron On-Site Reviewer (Ops/AD Representative, Drill Site Manager (DSM)/Well Site Manager (WSM))
 - Welding Supervisor (contract welding representative)
 - Operations Location PIC (O&M) (If applicable)
 - Fire Watch

Hot Work Guidelines

On-Site Reviewer and Operations Location Person in Charge

On-Site Reviewer:

- On location to review the work area before work begins.
- Initiates the Permit to Work Process
- Signs the Hot Work Permit
- **Not** required to remain on location while the work is performed.

Operations Location Person in Charge

- Normally the Operator on the Facility
- Can act as the On-Site Reviewer

Hot Work Guidelines

Welder Qualifications

- The Welding Supervisor must ensure that each welder is properly qualified according to the Welding Plan and inspect all welding equipment.
- Welders must meet specific requirements as is outlined in the MMS Welding Plan according to the work they will be performing for the following:
 - Structural Welding
 - Pressure Piping and Process Equipment
 - Pipelines
 - Floating Vessels/Marine Systems

Hot Work Guidelines

Fire Watch Qualifications/Duties

- Person who is adequately trained, capable of, and solely designated to operate gas detection and incipient firefighting equipment as required during welding and non-welding activities. The Fire Watch shall assist with inspection of the work area.
- The Fire Watch must be familiar with the facilities and procedures for sounding an alarm in the event of a fire.
- The Fire Watch can have no other duties in addition to being a fire watch, such as welder's helper.
- The Fire Watch shall remain on duty for at least 30 minutes after hot work activities have ceased.
- One or more persons as deemed necessary may be designated as a Fire Watch.

Hot Work Guidelines

Welding Authorization

- After it has been determined that it is safe to proceed with the welding or burning operation, the Chevron PIC or Designee (Operations Supervisor (OS), Offshore Installation Manager (OIM), Drill Site Manager (DSM)/ Well Site Manager (WSM) or the Delegated Person in Charge authorizes the work by signing the Chevron Daily Welding Hot Work Permit.

Hot Work Guidelines

Hot Work Permits

- Required signatures for the Daily Welding Hot Work permit:
 - Chevron On-Site Reviewer
 - Welding Supervisor
 - Operations Location PIC (O&M) (if applicable)
 - Fire Watch
 - Final authorization to begin welding is given by the Chevron PIC or Designee (OS, OIM, DSM/WSM or delegated person in charge).

Hot Work Guidelines

Hot Work Permits

- Where logistics make it impractical to secure an original signature of the Chevron PIC or Designee, the Chevron On-Site Reviewer must:
 - Contact the Chevron PIC or Designee (OS, OIM, DSM/WSM or delegated person in charge) and discuss the scope of the work.
 - Verify that Permit to Work and a JSA has been conducted to include a thorough evaluation of potential hazards.
 - Agree that if the scope of the work changes, the job will be shut down and a new permit will be required.

Hot Work Guidelines

Hot Work Permits

- Copies of all Hot Work Permits should be maintained at the nearest respective headquarter facilities for **three years. (changed from one)**
- Hot Work Permits must be reissued for job scope changes, changes in equipment and changes in one or more of the issuing and/or authorizing personnel.

Hot Work Guidelines

Job Safety Analysis (JSAs)

- A JSA is required to be completed prior to conducting any hot work activity whenever a Hot Work Permit will be issued.

Hot Work Guidelines

Welding During Well Work Activities

- Welding is not permitted during drilling, completion, or workover operations unless the fluids in the well are noncombustible and entry of formation hydrocarbons into the well bore is precluded by either mechanical means or a positive overbalance toward the formation. Welding is not permitted during wireline operations.

Hot Work Guidelines

Thirty-Five Foot Restrictions

- Equipment containing hydrocarbons or any other flammable substances must be moved at least 35 feet horizontally from the welding area.
- Move similar equipment on lower decks at least 35 feet from the point of impact where slag, sparks, or other burning materials could fall.
- If moving this equipment is impractical, the equipment must be protected with flame-proof covers, shielded with metal or fire-resistant guards or curtains, or the flammable substances must be rendered inert.
- In addition, combustible materials must be moved from the area or properly shielded.

Hot Work Guidelines

Welding Near Hydrocarbon Piping

- It is permissible to weld near hydrocarbon piping without shutting in the production in that piping **provided that the piping and associated connections are properly “made-up”, well maintained and adequately shielded.**

Hot Work Guidelines

Process Control Valves and Actuated Valves

- Process control valves and actuated valves should be treated as process equipment and addressed as defined in the thirty-five feet and ten feet requirements. This is because they are frequently and automatically stroked and thus pose a greater threat of introducing hydrocarbons into the hot work area via their seals and packing than do manual block valves.

Hot Work Guidelines

Water Discharge Point Sources

- All overboard water discharge points from hydrocarbon-handling vessels must be monitored. If a discharge of flammable fluids occurs, welding must be stopped.

Drain Inlet Covers

- All deck drains within 35 feet of welding must have a cover over them sufficient enough to prevent a fire.

Hot Work Guidelines

Tarps/Shielding Materials

Tarps **used** for Hot Work purposes shall meet the following specs.

- Fire Retardant Tarps
- Red in color
- Have a durable label identifying it with either the letters "FR" or the words "Fire Retardant"
- Be silicon coated or impregnated
- Have grommets

Hot Work Guidelines

Gas Detectors

- Fixed gas detectors cannot be used in lieu of a portable gas detector for hot work activities.
- Through 2009, the Chevron GOM Portable Gas Detector standard is the BioSystems PHD5 model. This standard will change during the next year, but during the interim, continue use of the PHD5 and make repairs as needed.
- Gas detectors shall be:
 - Calibrated, (with test gas only, not acetylene or natural gas), once every 30 days or prior to use if the unit has been idle beyond 30 days of the last calibration.
 - Bump tested prior to first use each day, (with a known concentration of test gas only, not acetylene or natural gas)

NOTE: Contractors may use the gas detector of their choice, provided their personnel are trained/qualified to operate that specific model.

Hot Work Guidelines

Hot Work Permits

- Required signatures for the Daily Non-Welding Hot Work permit:
 - Permit Applicant
 - Chevron PIC or Designee
 - All exceptions to the requirements of this permit must be approved by the Chevron PIC or Designee

Hot Work Guidelines

Non-Welding Hot Work Plan and Permit

- The key element and basis of the Non-Welding Hot Work Plan is the Non-Welding Hot Work Risk Matrix.
- The Non-Welding Hot Work Risk Matrix prescribes procedures and precautions to be taken for various hot work activities, including the use of tools and equipment in Classified (Div. 1 and 2) and unclassified areas.
- A Daily Non-Welding Hot Work permit may be required depending on the Non-Welding Hot Work Risk Matrix.

Hot Work Guidelines

Non-Welding Hot Work

- ALL Hot Work that is not related to “welding, burning and associated grinding” using examples of tools and equipment such as:
 - Grinders
 - Barbeque pits
 - Electric drills, extension cords, internal combustion engines
 - Opening enclosures containing arcing or high-temp electrical devices
 - Pneumatic saws, guns, drills, hammer-wrenches
 - Portable Electronic Devices (PED's) Computers, cameras, cell phones, engine analyzers, NORM meters

Hot Work Guidelines

Portable Electronic Devices/Portable Electrical Tools

1. All PED's and Electrical Tools used in classified areas must be suitable for the area or used in conjunction with a hot work permit.
2. Portable Electrical Tools used in classified areas must have warning labels certifying their use in classified areas or be permanently labeled "WARNING – SOURCE OF IGNITION WHEN IN USE".

Quiz Questions

Quiz Questions

A copy of the MMS Welding Plan with the approval letter must be available at the nearest field office while performing welding and burning activities.

True

False

A copy of the MMS Welding Plan with the approval letter must be available at each work site while performing welding and burning activities.

Quiz Questions

The Welding Supervisor must ensure that each welder is properly qualified in order to meet specific requirements as is outlined in the MMS Welding Plan according to the work they will be performing.

True

False

The Welding Supervisor must ensure that each welder is properly qualified in order to meet specific requirements, as is outlined in the MMS Welding Plan according to the work they will be performing for the following:

1. Structural Welding
2. Pressure Piping & Process Equipment
3. Pipelines
4. Floating Vessels/Marine Systems

Quiz Questions

How long must the Fire Watch remain on duty after hot work activities have ceased?

1. 45 minutes
2. 1 hour
3. 30 minutes
4. It is not necessary for the Fire Watch to remain on duty after hot work activities have ceased.

Quiz Question

Which of the following are applicable to 35 foot restrictions during welding and burning operations?

1. Equipment containing hydrocarbons or any other flammable substances must be moved at least 35 feet horizontally from the welding area.
2. Move similar equipment on lower decks at least 35 feet from the point of impact where slag, sparks, or other burning materials could fall.
3. If moving this equipment is impractical, the equipment must be protected with flameproof covers, shielded with metal or fire-resistant guards or tarps, or the flammable substances must be rendered inert.
4. Combustible materials must be moved from the area or properly shielded.
5. All of the above

Quiz Question

You do not need a portable gas detector during hot work if the work in question is performed near a fixed gas detector.

True

False

A fixed gas detector cannot be used in lieu of a portable gas detector during hot work activities.

Quiz Question

Cell Phones are not allowed on Chevron Facilities.

True

False

Portable Electronic Devices (PEDs) – Cell Phones are allowed on Chevron Facilities, but must be used in conjunction with a Non-Welding Hot Work Permit when used in Classified Areas.

Quiz Questions

It is permissible to weld during wireline operations providing that a proper JSA has been completed and a Daily Welding Hot Work permit has been issued for the welding operation.

True

False

Welding is not permitted during wireline operations.

Quiz Questions

Welding is not permitted during drilling, completion, or workover operations unless the fluids in the well are non-combustible and entry of formation hydrocarbons into the wellbore(s) is precluded by either mechanical means or a positive overbalance towards the formation.

True

False

Welding is permitted under these conditions.

Quiz Questions

Bump Test of Gas Detectors –

1. Should be performed prior to the first time a detector is used each day. It may be tested more often.
2. When you hit the detector to make sure it is working.
3. The application of a know concentration of gas applied to the unit to verify the detector alarms at specified limits
4. The application of a know concentration of gas applied to the unit to verify the detector alarms at specified limits
5. 1 and 2

6. 1 and 3

Answers shown were 2 and 3

Quiz Questions

Through 2009, the Chevron GOM Portable Gas Detector standard is the BioSystems PHD5 model.

True

False

The current Chevron GOM Portable Gas Detector standard is the BioSystems PHD5 model. This standard will change during the next year, but during the interim, continue use of the PHD5 and make repairs as needed.

Quiz Questions

All overboard water discharge points from hydrocarbon-handling vessels must be monitored during welding and burning operations.

True

False

If a discharge of flammable fluids occurs, welding and burning operations must be stopped.

Quiz Questions

Hot Work per Chevron GOM Hot Work Guidelines is classified in the following categories:

1. Working when the temperature is over 100 degrees F.
2. Welding, burning and associated grinding.
3. Non-welding hot work (all other ignition sources).
4. Work that is of high priority and very important.
5. 1 and 2
6. 2 and 3
7. 3 and 4
8. All of the above

Quiz Questions

Which is NOT a duty of the On-Site Reviewer?

1. Be on location to review the work area before work begins.
2. Initiates the Permit to Work Process for the subject work.
3. Signs off on the Hot Work Permit before sending to Chevron PIC.
4. Is required to remain on location while work is being performed.

While the On-Site Reviewer is required to be on location to review the work area before work begins, they are not required to remain on location while the work is being performed. Depending on the risk of the work, he may decide to remain on location.

Quiz Questions

Which of the following is NOT required of GOM Tarps used for Hot Work purposes?

1. Be red in color
2. Be silicone coated or impregnated
3. Be waterproof
4. Have grommets
5. Must have a durable label (affixed, marked or sewn) identifying it with either the letters "FR" or the words "Fire Retardant"

GOM Tarps used for Hot Work purposed are not required to be waterproof.

Quiz Questions

The Operations Location Person in Charge can act as the On-Site Reviewer.

True

False

The Operations Location Person in Charge (normally the Operator of the Facility) can act/serve as the On-Site Reviewer.

Quiz Questions

In accordance with the 35 foot/10 foot rules, it is NOT permissible to weld near hydrocarbon piping without shutting in production.

True

False

It is permissible to weld near hydrocarbon piping without shutting in the production in that piping **provided that the piping and associated connections are properly “made-up”, well maintained and adequately shielded.**

Quiz Questions

Required signatures for the Daily Welding Hot Work Permit are:

1. Chevron On-Site Reviewer
2. Welding Supervisor
3. Operations Location PIC (if applicable)
4. Fire Watch
5. Final authorization to begin welding is given by the Chevron PIC or Designee (Operations Supervisor, Offshore Installation Manager, DSM/WSM or the Delegated Person in Charge.

True

False

Quiz Questions

Required signatures for the Daily Non-Welding Hot Work Permit are:

1. Permit Applicant
2. Chevron PIC or Designee
3. Welding Supervisor
4. All exceptions to the requirements of this permit must be approved by the Chevron PIC or Designee
5. All of the above.
6. 1, 2 and 4

Quiz Questions

Welding on handrails requires a welder who is certified as defined in the Chevron MMS Welding Plan.

True

False

Handrails are considered a structural component and welding on handrails requires a welder who is certified as defined in the Chevron MMS Welding Plan.

Quiz Questions

Process control valves and actuated valves are not treated as process equipment and are excluded from the thirty-five feet and the ten feet requirements because they are a part of the platform piping, not equipment.

True

False

False – Process control valves and actuated valves should be treated as process equipment and addressed as defined in the thirty-five feet and ten feet requirements. This is because they are frequently and automatically stroked and thus pose a greater threat of introducing hydrocarbons into the hot work area via their seals and packing than do manual valves.