

Operating Regulations for Gothenburg Energy Port

Contents

A JOINT PROCEDURES

1	General	5
2	Geographical areas of application	5
3	Safety	6
4	Environmental responsibility	6
5	Smoking prohibited	6
6	Deviations	7
7	Responsibility for protection	7
8	Protective clothing	7
9	Use and inspection of insulating flanges	7
10	General arrangement for berths	7

B PROCEDURES FOR VESSELS

11	General procedures for vessels	9
12	Procedures for loading and discharging	11
13	Procedures for tank cleaning operations	13

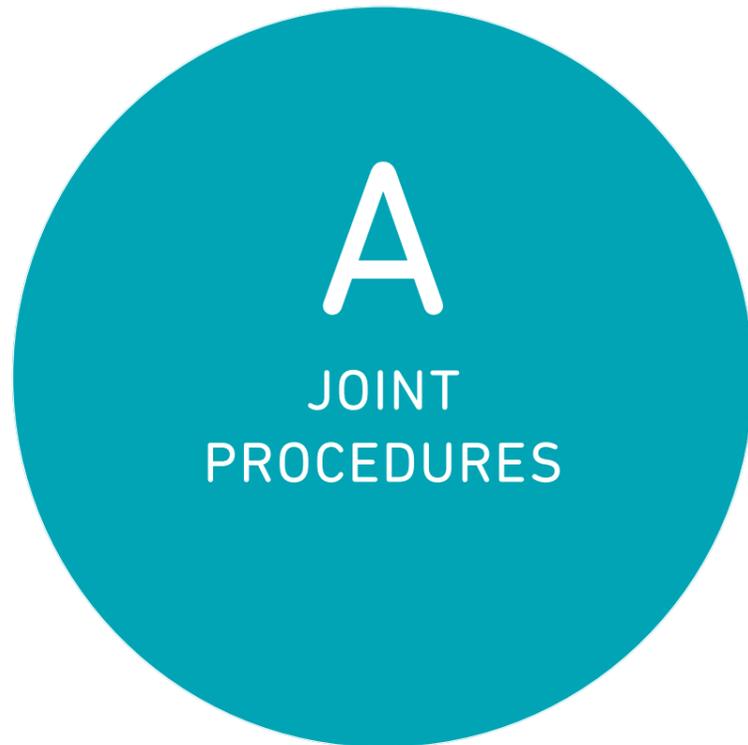
C OPERATING PRACTICES FOR BUSINESSES WITHIN THE ENERGY PORT

14	General operating practices for businesses within the Energy Port	15
15	Procedures for watch officers and pipeline watch officers (supervisors)	16

D APPENDICES

Appendix A)	Area of responsibility – Skarvik and Rya Harbours	20
Appendix B)	Area of responsibility – Tor Harbour	21
Appendix C)	Area of responsibility – Skandia Harbour berth 644	22
Appendix D)	Procedures on board	23
Appendix E)	Ship/Shore Safety Checklist Part A/B and Part C/D	24
Appendix F)	Cargo handling plan	31
Appendix G)	Checklist for tank cleaning in Gothenburg Energy Port	32
Appendix H)	Work permit	35
Appendix I)	Temporary hot work permit	37
Appendix J)	Zones for hot work permit	39
Appendix K)	Jetty Operator report	40
Appendix L)	Pipeline Operator report	41
Appendix M)	Regulations for bunker operations for Class 1 vessels	42

The Operating Regulations for Gothenburg Energy Port are divided into three parts: Joint Procedures, Procedures for Vessels and Operating Practices for Businesses within the Energy Port (shore based activities). Everyone concerned is obligated to know the contents of all the parts, including those parts that do not concern them directly. Following the Operating Regulations for Gothenburg Energy Port does not exempt anyone from responsibility for complying with the General Port Regulations for the Port of Gothenburg.



1 GENERAL

The Operating Regulations for Gothenburg Energy Port are divided into three parts: joint procedures, procedures for vessels, and operating practices for businesses within the Energy Port (shore based activities). Everyone concerned is obligated to know the contents of all the parts, including those parts that do not concern them directly. Following the Operating Regulations for Gothenburg Energy Port does not exempt anyone from responsibility for complying with the General Port Regulations for the Port of Gothenburg.

1.1 CONTACT INFORMATION

Primary contact for the Energy Port is via our safety coordinators:

Skarvik Harbour/Rya Harbour:

Phone: +46 31 368 75 25 (24H)

VHF: Ch12

e-mail: oilharbouoperation@portgot.se

Tor Harbour:

Phone: +46 31 368 75 30 (24H)

VHF: Ch 17

e-mail: torshammen@portgot.se

1.2 RISK MANAGEMENT

Crude oil, refined oil products, petroleum gases and chemical products are usually flammable and hazardous to health. Consequently, special attention is required to prevent personal injury or damage to property or the environment.

1.3 KNOWLEDGE AND UNDERSTANDING OF THE REGULATIONS

All personnel working or present in the areas covered by the Regulations, as well as all outside visitors to the Energy Port, should familiarise themselves with the rules and are obligated to follow the Regulations. It is mandatory for vessels calling at the Energy Port to carry the latest edition of the Operating Regulations onboard, in printed or electronic form. These Regulations are also available in Swedish.

1.4 PORT REPRESENTATIVE

The term Port Representative at Gothenburg Energy Port as used in these Regulations, refers to the Vice President Operations, Operations Manager, Fire Engineer, Operational Planner or a Safety Coordinator according to the Port of Gothenburg's organisational chart for the Energy Port.

1.5 ISGOTT

The Operating Regulations for Gothenburg Energy Port are based on recommendations in the latest edition of "International Safety Guide for Oil Tankers and Terminals" (ISGOTT).

1.6 ESTABLISHING THE REGULATIONS

The Vice President Operations in the Port of Gothenburg is responsible for establishing the Regulations. The latest version of the Regulations can be found on www.portofgothenburg.com

2 GEOGRAPHICAL AREAS OF APPLICATION

2.1 GOTHENBURG ENERGY PORT

The Regulations apply within the enclosed areas of Gothenburg Energy Port according to appendixes A, B and C regarding Skarvik and Rya Harbours, Tor Harbour and berth 644 in Skandia Harbour. The applicable areas are marked in pink in the appendixes.

2.2 AREA BELONGING TO STATOIL AND STENA OIL

For the private oil terminals owned by Statoil and Stena Oil, according to appendix A, the Operating Regulations applicable are those in Sections 1.3, 3.3, 5, 6, 8.1, 8.3, 9, 10, 11.1, 11.4, 11.9.2, 12 and 13.

3 SAFETY

3.1 SAFETY PROCEDURES

The Port of Gothenburg's safety procedures are subject to the City of Gothenburg's safety policy. Gothenburg Energy Port applies the following basic approach with regard to safety procedures:

- activities should be conducted in a way that promotes a sound work environment, a high level of safety and good quality.
- everyone working in the Energy Port should be able to feel safe when carrying out their duties.
- operations at the Gothenburg Energy Port should be characterised by innovative, discerning environmental work and concern for safety.
- any and all work carried out onshore or onboard a vessel in Gothenburg Energy Port must be in a drug- and alcohol-free work environment.
- companies handling flammable, dangerous or hazardous goods within the Energy Port's premises must maintain continuous watch during cargo handling and, at all other times, inspect their own facilities at least twice every 24 hours. Any exceptions must be approved by the Vice President Operations or Operations Manager at the Energy Port. Inspection procedures and personnel must be approved by Gothenburg Port Authority.

Cooperation between companies and Gothenburg Energy Port on safety issues should always be with the purpose of achieving sound and financially beneficial solutions. All safety precautions with regard to "Port Security" are stipulated in the Port of Gothenburg's Security Plan. More information is available on www.portofgothenburg.com – About the port – Port Security.

3.2 COMPANIES' RESPONSIBILITY

Company management and company representatives working at the Energy Port must ensure that:

- delegation is organisationally appropriate and correct in accordance with current legislation.
- training of the company's personnel is in accordance with current legislation, and that the terms and conditions stated by Gothenburg Energy Port are met and that training in general is appropriate for the work at hand.
- signs and instructions are to be designed in such a way that they can be clearly understood even by non-Swedish speakers.

3.3 PERSONNEL'S RESPONSIBILITY

All personnel working in the Energy Port are personally responsible for ensuring regulations, instructions and generally accepted recommendations are followed, and that protective clothing and equipment are worn/used as stipulated.

4 ENVIRONMENTAL RESPONSIBILITY

The Port of Gothenburg has a permit from the Västra Götaland County Administrative Board, in accordance with the Environmental Code, for harbour operations at Tor Harbour, berth 644 at Skandia Harbour, Skarvik Harbour and Rya Harbour. Storage and handling of oil, gas and chemical substances always involve risks of spillage into the surroundings. Gothenburg Energy Port applies the following basic approach with regard to its environmental policy:

- storing and handling of oil, gas and chemical substances should be carried out in such a way as to minimise the risk of spillage. The best available technology and practices should always be applied.
- all companies operating in the Energy Port are responsible for internal training on environmental hazards and on the appropriate handling of equipment, for the purpose of minimising these risks.
- loaded tank vehicles may not be parked on surfaces with a higher permeability than asphalt (i.e. approved surfaces are asphalt, concrete and steel, etc.).
- damage to land and the environment must be reported to the County Administrative Board or the Environmental Department by those responsible for the damage, in accordance with the current environmental inspection programme.
- cargo with a flashpoint below 30° C, and other products or substances that may obstruct the purification of oil contaminated wastewater should never be discharged into the Oil Contaminated Wastewater System.
- single-hull vessels are not allowed to operate in Gothenburg Energy Port (effective from January 1, 2015).

5 SMOKING PROHIBITED

A general ban on smoking and on the use of open flames applies throughout the Energy Port, onshore as well as onboard vessels, and inside vehicles. Smoking is only permitted in designated smoking areas.

6 DEVIATIONS

Injuries, incidents and near incidents must be reported as deviations of importance to activities within the Energy Port. Such deviations shall be dealt with by the cooperation committee and a designated project team, with the purpose of reducing the number of injuries and incidents.

7 RESPONSIBILITY FOR PROTECTION

All personnel working, temporarily or permanently, in the Energy Port must comply with the Port of Gothenburg's protection rules regarding safety and protection and access to the Energy Port. A complete set of rules is available in the General Operating Regulations for the Port of Gothenburg.

8 PROTECTIVE CLOTHING

8.1 REGULATIONS AND AREA OF APPLICATION

The following applies when working anywhere within the Energy Port:

- safety helmets must always be worn.
- goggles or a visor and hearing protectors must always be easily accessible and must be worn in hazardous environments.
- coveralls and protective shoes must always be worn, and a visible item of clothing should be of reflective material.

If any of the above is missing, the port representative on duty has the right to suspend work immediately until the matter has been rectified.

8.2 HELMET COLOURS

Safety and pipeline supervisors must wear orange helmets. The Port of Gothenburg operates under the following rules, and recommends that other companies do likewise:

- management representatives and general supervisors wear yellow helmets.
- safety representatives wear red helmets.
- visitors wear blue helmets.
- everyone else wears a white helmet.

8.3 LIFE JACKETS

Life jackets must be worn when working on berths and piers or where there is a risk of falling into the water. This applies throughout the Energy Port. If a life jacket is missing, the port representative on duty has the right to suspend work immediately until the matter has been rectified. When welding is being done, life jackets should not be worn, but be within easy reach.

8.4 OTHER PROTECTIVE EQUIPMENT

When handling oil, gas or chemical substances that require additional protective equipment than that mentioned in 8.1, the company responsible for the workplace must use or have protective equipment available as directed by the authorities or recommended in the PDS/MSDS (Product Data Sheet/Material Safety Data Sheet).

9 USE AND INSPECTION OF INSULATING FLANGES

9.1 GENERAL CONDITIONS

Insulating flanges should be used for ship to shore connections when handling flammable cargo. Electrically non-conducting hoses may be used as an alternative to insulating flanges. The same rules apply for insulation measurement and intervals as for insulating flanges. Non-conducting hoses should be clearly marked with relevant details so as not to be confused with conducting hoses. The standard requirements for insulating flanges also apply to gas return hoses and pipes.

9.2 FUNCTIONAL INSPECTION

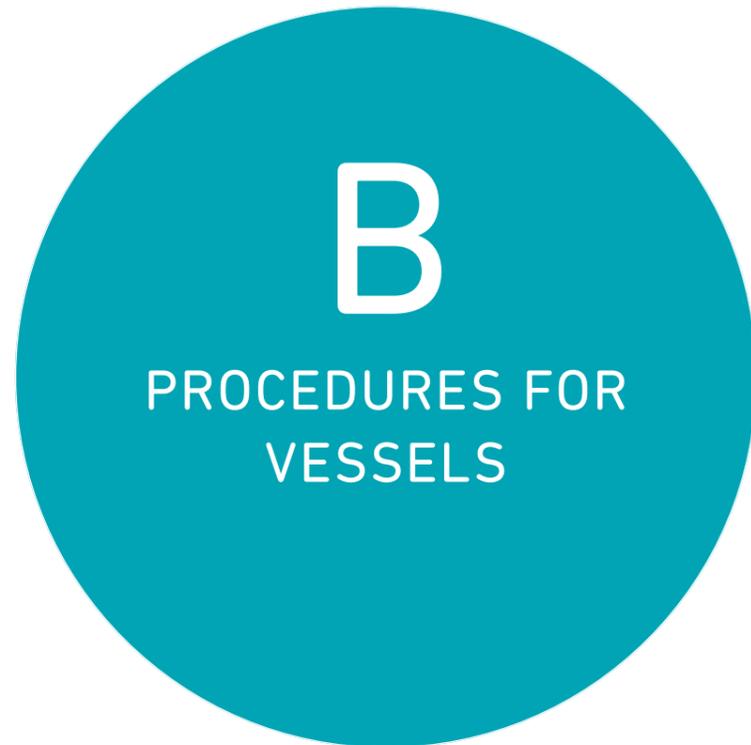
The insulation resistance should be inspected and tested periodically or at least once a year, and records kept. The measured value of the resistance should not be less than 1,000 ohms. The measuring voltage should exceed 100 volts. If the resistance is lower, the hose or loading arm should not be connected. Poor or non-existent insulation of an insulating flange should be reported immediately to the responsible terminal representative in the case of equipment belonging to individual depots or companies in the Energy Port, or to the port representative if the equipment belongs to Gothenburg Energy Port. After being informed of defective equipment, the company must attend to the matter as soon as possible.

10 GENERAL ARRANGEMENT FOR BERTHS

The general arrangement for berths, published on www.portofgothenburg.com, gives detailed mooring recommendations, maximum dimensions for vessels for each berth as well as other restrictions concerning berths in the Energy Port. These documents are equally as valid as these Operating Regulations, and are on par with them.

10.1 EMERGENCY ESCAPE PLANS

The general arrangement as stated above also comprises an updated emergency escape plan for each berth. Each berth has at least two emergency escape routes.



B

PROCEDURES FOR VESSELS

11 GENERAL PROCEDURES FOR VESSELS

11.1 NOTIFICATION OF ARRIVAL

Vessels arriving at the Port of Gothenburg must report to the Port Authority/Port Control in accordance with the General Port Regulations for the Port of Gothenburg. According to these regulations, hazardous goods being brought into the port area by sea must also be reported.

11.2 VENTILATION VAPOURS FROM TANKS

All vessels must declare the three last cargoes carried prior to arriving in the port. Vessels where the last cargo carried contained high levels of hydrogen sulphide (H₂S) and mercaptans must declare the levels of these components in the tank atmosphere no later than 12 hours before arrival. When loading products where no vapour recovery system is being used, the following maximum levels apply; for H₂S, 50 ppm, and for mercaptans, 0.5 ppm; both levels refer to the vapour phase. When handling products with high levels of H₂S or mercaptans, appropriate protective equipment must be used/worn.

On arrival in the port, any overpressure in cargo tanks must be reduced to normal atmospheric pressure in order to carry out measurement operations. If these rules are not followed there is a risk of being shifted from berth to anchorage for venting and for the order of priority to be lost. The shipping company shall bear all costs incurred in connection with sampling, analyses and any possible warping.

11.3 ORDER OF PRIORITY TO BERTH

Provided that notice of arrival has been in accordance with applicable port procedures, the order of priority is determined based on the vessel's arrival at the traffic area, or the designated anchorages or waiting berths and on a "Notice of Readiness" (NOR) having been submitted. Arrival at the traffic area means arriving by sea (Vinga) or arriving from Göta River (Lärje). If the ship has not taken advantage of its turn in the queue within 6 hours of having been allocated a berth, the berth will be allocated to the next ship in turn.

Exemptions: Head of Operations or an appointed representative may deviate from the order of priority if a request has been made to be granted priority and this request is supported by special circumstances. Special circumstances may be circumstances such as if there is a threat of interruption in production owing to the stock

situation of a product, or that there is a specially designated mooring berth for a particular ship. A report of the deviation must be recorded.

Vessels may not idle at a berth without special permission. Ships that, for reasons beyond the control of the Energy Port, remain idle at a berth for a long period of time (more than 6 hours), can be ordered to move from the berth after discussions between the responsible terminal representative/Energy Port management and the master of the vessel. The master of the vessel is responsible for arranging pilot/tug assistance if such is needed to depart from the berth. Vessels ordered to move from a berth as mentioned above will be placed on the order of priority list after having submitted a new "Notice of Readiness" (NOR) and when the vessel is ready for cargo handling.

Vessels that, after having loaded or discharged cargo at the Energy Port, for reasons beyond the control of the Energy Port, request to return to a berth, will be placed on the order of priority list according to the above-mentioned system and will be assigned an anchorage or waiting berth pending a vacant berth. No new "Notice of Readiness" (NOR) is required.

11.4 SMOKING

Smoking is strictly prohibited on open decks, bridges and similar areas regardless of the nature of cargo being carried by the ship. "Smoking prohibited" notices should be posted and be clearly visible on board. A responsible terminal representative may, under certain circumstances, prohibit smoking even in places where smoking is normally allowed.

11.5 REPAIR AND MAINTAINANCE WORK ON BOARD

According to the General Port Regulations, hot work, the use of open flame, tools that may cause sparks to arise, etc. may only be allowed on board after permission has been granted by the responsible terminal representative. Ships moored at berths within the Energy Port should always be able to move under their own power at short notice. Permission must first have been granted in writing from the Port Control before any work can be carried out on a vessel that will effectively immobilise it. The conditions are that:

- a tug boat with the requisite tug capacity must be available for the entire period the ship is immobilised. This tug boat must be in the vicinity of the ship - a maximum of 20 minutes is allowed for tug boat service to be available.

- a berth space will only be granted as long as no other vessel requests that particular mooring.

Starting and testing machines is not allowed when handling cargo or when a loading arm is connected. Exemptions can be granted by a responsible terminal representative.

11.6 PORTABLE ELECTRICAL EQUIPMENT

Portable electrical equipment that is not ATEX-classified (including computers, mobile telephones, flashlights, radios, radio pagers, cameras, etc.) must not be used on an open deck or on a berth without permission from a responsible terminal representative.

11.7 SHIP SERVICES

11.7.1 Bunkering (Bunker barge/Fuelling vehicles)

Bunkering operations are only allowed after permission has been granted by a responsible terminal representative. Bunkering between two vessels is not allowed when average wind speeds are in excess of 20 m/s (readings from an anemometer designated by the port).

Bunkering operations are not allowed when loading, discharging, sampling or venting flammable goods with a flashpoint below 30° C. Bunkering is also not allowed during loading/discharging operations if the ship has previously carried cargo with a flashpoint below 30° C in cargo or slop tanks unless the tanks have been cleaned and the ship is gas-free. This must be supported by a certificate or validated by an independent inspector. Note that these conditions also apply to bunkering from quayside vehicles.

Exemptions from the above-mentioned rule can be made if special conditions, as specified in appendix M, are met.

11.7.2 Removal of sludge from the engine room

The same conditions apply for the removal of sludge as for bunkering operations. See Section 11.7.1. Removing sludge from a vessel loading/discharging flammable cargo with a flashpoint below 30° C, should, where possible, be via a fixed piping arrangement on the berth.

11.7.3 Other ship services

Provisioning and other ship services may only be carried out after permission has been granted by a responsible terminal representative. Note that these terms and conditions also apply to quayside vehicles.

11.8 FIRE, PRODUCT SPILLAGE OR INJURY TO PERSONNEL

A notice on measures to be taken in the event of a fire, product spillage or injury to personnel should be posted and must be clearly visible on board (appendix D).

11.9 SPECIAL PROCEDURES

11.9.1 Mooring using boatmen

When mooring a ship with a minimum length of 80 metres (on arrival or departure), this operation should be undertaken by experienced boatmen in accordance with the General Port Regulations for the Port of Gothenburg. In addition, all ships, regardless of length, mooring at berths 510, 511, 519, 520, 521, 551, 800 and 801 must use the services of experienced boatmen. A responsible terminal representative can, on occasion, demand that boatmen should be used even for ships shorter than 80 metres when conditions such as the weather, manoeuvrability or the construction of the ship make it necessary from a safety perspective. Exemptions may be made by a responsible terminal representative if all applicable safety aspects can be covered.

11.9.2 Communications

VHF communication with the responsible terminal and port representatives, Skarvik/Rya Harbour and the Port Control is via VHF channel 12, and in Tor Harbour, via VHF channel 15/17.

11.9.3 Procedures regarding the weather on arrival, departure or warping

If the weather forecast (for the weather station designated by the port) indicates average wind speeds in excess of 20 m/s, the Harbourmaster, or his/her appointed representative, is responsible for deciding if arrivals to or departures from the berths at the Energy Port will be allowed or mandated. This decision is based on wind force and wind direction, the particular ship, availability of tug boats, etc. The master/ship's officer is responsible for determining the need for tug boat assistance and sea pilot and for ordering these services.

12 PROCEDURES FOR LOADING AND DISCHARGING

12.1 OPERATIONAL RESPONSIBILITY

When loading or discharging cargo, the recipient or the supply depot or refinery is responsible for the operations. Throughout the operations at least one responsible representative, a "loading master", should be available at all times in direct connection with the cargo operation. See also Sections 14.1.4–14.1.5.

12.2 SHIP/SHORE SAFETY CHECKLIST

12.2.1 Completing a checklist and following-up

Before loading or discharging operations can commence the Ship/Shore Safety Checklist must be completed (appendix E) by the responsible ship's officer and a depot or refinery representative or "loading master", and duly signed by these parties. This communication must also state that activities such as operating cranes must only be carried out by authorised personnel in a safe way. The watch officer must also sign the checklist and be given a cargo handling plan, and is also responsible for following-up during loading/discharging operations. Exemption from an obligation on a checklist may be granted to ships with agreed arrangements. Applications for exemption should be submitted to the Energy Port.

12.2.2 Responsibility

The responsible ship's officer and the depot or refinery representative or "loading master" are responsible for ensuring the data provided are accurate and that the terms and conditions of the checklist are fulfilled at all times.

12.2.3 Exceptions

Within the private oil terminals, each company is responsible for its work areas.

12.3 CARGO HANDLING PLAN

Before loading/discharging operations can commence, a cargo handling plan must be completed (appendix F) and signed by the ship's officer on duty and the depot manager, a representative or "loading master". The watch officer must also sign the document.

12.4 SPECIAL TERMS AND CONDITIONS

12.4.1 Approved product hoses

Only approved product hoses tested by an authorised company in the last 12 months may be used. An appropriate approval certificate must be available and the hoses must be clearly marked with the date of the most recent sampling as well as the maximum pressure allowed.

12.4.2 Gas tankers

The loading or discharging area for gas tankers must be enclosed spaces with clearly visible signs. When connecting or disconnecting gas tankers, ships may not pass to or from adjacent berths (berths 562–563).

12.4.3 Cargo handling operational restrictions in adverse weather conditions

If the weather forecast (as provided by the port) indicates average wind speeds in excess of 20 m/s, cargo handling operations must be suspended in good time, and loading arms or hoses disconnected and securely blanked. The responsible terminal representative may waive the rules in the interest of safety. In the event of a thunderstorm, the general rule is that if the time lapse between the flash of lightning and the subsequent bolt of thunder is less than 5 seconds, cargo handling operations must be suspended immediately, all ventilation valves must be closed and operations cannot be resumed until the time lapse is more than 5 seconds.

12.4.4 Special cargo handling operational restrictions for berth 510 for larger vessels

For larger ships with stern lines moored to the mooring buoy, if the weather forecast (as provided by the port) indicates average wind speeds of at least 15 m/s, in a north-westerly, westerly or south-westerly direction, cargo handling operations must be suspended in good time, loading arms disconnected and manifolds securely blanked. To guarantee that the ship is securely moored, the Port Control must be contacted to enlist the services of a tug boat.

12.4.5 Special cargo handling operational restrictions for berth 801 for VLCC ships (LOA > 280m)

With regard to estimated time in port and corresponding weather forecast (from weather station assigned by the port), the Port Control must be consulted before arrival:

- forecast indicating average wind speed of at least 15 m/s, in a north-easterly, easterly or south-easterly direction.
- forecast indicating average wind of at least 20 m/s, other wind directions.

Should a change in weather conditions result in higher wind speeds, cargo handling operations must be suspended in good time, loading arms disconnected and manifolds securely blanked. To guarantee that the ship is securely moored, the Port Control must be contacted to enlist the services of a tug boat.

12.4.6 Special conditions regarding pumping operations in the joint pipeline system at the Energy Port

The temperature of a product in the pipeline system must never exceed 70°C. In case of a power-cut, all cargo handling operations must stop immediately.

12.4.7 Vessels with agreed arrangements on "key discharging"

Depot supervisors and ships that meet the safety and training criteria for crew as approved by the Gothenburg Port Authority according to agreed arrangements are responsible for coordinating operations. In these cases, ship's officers are responsible for the quayside operations. Both the holder of the berth equipment for "key discharging" and a ship using the equipment are obligated to inform all users concerned immediately of any alterations to equipment or their operations.

12.5 INTERRUPTION

If loading or discharging operations are interrupted, the ship and jetty manifold valves must be closed.

12.6 CLOSED LOADING

12.6.1 General terms and conditions

In Gothenburg Energy Port cargoes containing oil products, gas and chemicals should be handled under closed loading conditions.

12.6.2 Exemption

The Energy Port may grant exemption from the terms and conditions in Section 12.6.1 under special circumstances.

12.6.3 Tank hatches and ullage openings

All tank hatches and ullage openings must be kept closed. Cargo tank venting operations must be carried out via the ship's tank venting system. Monitoring the actual cargo levels in the tanks should be done using an instrument or other equipment that will allow vapours to be vented via the ship's tank venting system.

12.6.4 Vapour recovery

Ships loading products with a flashpoint below 30° C should be connected to a vapour recovery system. The ship must meet the IMO standards for safety equipment. ISGOTT recommendations should be observed.

12.6.5 Inspection after loading and sampling operations

If requested by a ship, the responsible operator, "loading master", may allow ullage hatches to be opened before or after loading/discharging operations have been completed (+30 minutes) in order to level the pressure in the atmosphere in the cargo tanks to enable exact ullages to be obtained or for sampling the cargo. The responsible operator must take into consideration the real risks for accidents, to health and to the environment. The responsible terminal representative and the watch officer must be informed.

12.6.6 Suspending cargo handling operations

Should the above-mentioned rules not be observed, the responsible terminal representative, terminal personnel or the watch officer must suspend loading operations immediately. Loading can only be resumed after the conditions and rules are met. The responsible terminal representative is the person who decides. A deviation report must be written.

13 PROCEDURES FOR TANK CLEANING OPERATIONS

13.1 GENERAL

Cleaning ship's cargo tanks (tank washing) at the quayside within the area of the Energy Port area is not allowed without a special permit. Tank cleaning entails an increased risk for flammable and hazardous gases to escape, as well as a risk for flammable gases to ignite. Consequently, special restrictions are in force within Gothenburg Energy Port. For ships arriving in Gothenburg Energy Port to carry out loading/discharging operations or to pump ashore wash water contaminated by oil before going on to the dry docks in Gothenburg, permission must first be obtained. This is granted on request from the ship's master. Cleaning and venting slop tanks that have contained wash water may be allowed, taking into consideration certain limits on emissions to the atmosphere. ISGOTT recommendations should be observed.

13.2 NOTIFICATION

The responsible ship's officer on duty must inform the responsible Energy Port representative of the intention to clean or vent the ship's tanks, and request permission to do so before any work can commence. If wash water is to be brought ashore, an agreement must be made with the recipient depot.

13.3 CHECKLIST

Before tank cleaning operations can commence, a special checklist must be completed and signed by the responsible officer on duty and a responsible terminal representative. See appendix G. When pumping wash water ashore (cargo residues) Section 14.1.5 applies. The Swedish Transport Agency's regulations should be observed.

13.4 RESPONSIBILITY

The responsible officer on duty must ensure that operations are carried out safely. The officer on board responsible for the operations must have the appropriate qualifications.

13.5 GENERAL REGULATIONS FOR THE OPERATION

Appropriate gas measurements must be carried out by a person authorised to do so. The Energy Port reserves the right to appoint an independent inspector for sampling, if deemed necessary.

13.6 WATCH OFFICER ON BOARD

The following conditions must be met:

- the responsible officer on duty should appoint a watch officer from the crew.
- a watch officer must be present on deck during cleaning operations.
- a watch officer must be present on deck when pumping wash water ashore.

13.7 VENTING

When venting tanks that have contained flammable goods with a flashpoint below 30°C, venting must be done through the ship's venting system. After cleaning a tank or a pair of tanks that have contained wash water residues, venting may be done in another way on agreement with the responsible terminal representative, if venting through the venting system is not possible.

13.8 INSPECTION

The responsible terminal representative has the right to check that equipment for tank cleaning, venting and the communications system are in satisfactory condition and that the proposed method is acceptable.

13.9 CRUDE OIL WASHING

ISGOTT recommendations should be observed.

13.10 DISCHARGING BALLAST WATER

When discharging ballast water the same procedures apply as when discharging a product (see Chapter 12).

13.11 DISCHARGING BALLAST WATER WITHIN THE PORT OF GOTHENBURG

Only clean ballast water from segregated ballast tanks (SBT) can be discharged into the sea, the harbour or other port areas managed by Gothenburg Energy Port. The master/ship's officer is responsible for ensuring discharge/pumping out of ballast water is stopped if it is discovered or suspected that the ballast water has been contaminated with oil. The responsible terminal representative should be informed immediately.



14 GENERAL OPERATING PRACTICES FOR BUSINESSES WITHIN THE ENERGY PORT

14.1 RESPONSIBILITY FOR CO-OPERATION

14.1.1 Joint work area

Those in charge of a joint work area are responsible for coordinating measures aimed at preventing health hazards and accidents, according to the Swedish Work Environment Act (SFS 1977:1160). Gothenburg Energy Port has three joint work areas managed by the Port of Gothenburg. Vice President Operations is therefore, by law, responsible for co-operation, unless stipulated otherwise below.

14.1.2 Leasehold areas and holdings in Tor Harbour, Skarvik Harbour and Rya Harbour

The leasehold areas and holdings in Tor Harbour, Skarvik Harbour and Rya Harbour are work areas which the lessees manage individually. The individual lessee/holder is therefore responsible for co-operation within these areas. It should be noted that certain conditions are regulated in the leasehold and holdings agreements.

14.1.3 Request for alterations at a facility

Any modifications to be made which are intended to alter pressure equipment, pipelines, rotary equipment, instruments, electrical installations, emergency stop installations, platforms and even deviations from current operating circumstances must go through a procedure to guarantee that the modifications can be carried out safely. The procedure should guarantee the function, integrity, safety and environment.

In the event a company intends to carry out modifications that will affect any of the Port of Gothenburg's facilities, a proposal of these alterations must be submitted to the Port of Gothenburg, after which the terms and conditions of the procedure will be determined. Lessees/holders affected by modifications must first be informed so they can give their approval.

14.1.4 Green card – Authorisation for work within the Energy Port

All professional categories carrying out work within the Energy Port must have special training for their category according to the agreement between the Port of Gothenburg and the companies within the Energy Port. The definition of the categories is according to the training matrix for a "Green Card". If the rules and procedures are not followed, authorisation for work within the Energy Port will be withdrawn.

All personnel on duty within the port area must have a good working knowledge of Swedish or English, spoken as well as written, or have someone in their immediate vicinity with this knowledge. If the Port of Gothenburg considers the personnel to be unqualified or to be insufficient in numbers for an operation, the Port of Gothenburg has the right to stop the operation.

14.1.5 Discharging operations

When carrying out discharging operations, the recipient depot or refinery is in charge of, and responsible for, the work area, including the ship's mooring berth and the part of the pipeline system used that leads up to the recipient depot or refinery area, from the time the work area has been set up until it is dismantled. A work area is considered to be set up as soon as a Ship/Shore Safety Checklist has been signed by the responsible ship's officer and a responsible representative for the depot or refinery. The work area is considered dismantled when the responsible ship's officer and the responsible representative for the depot or refinery have signed the checklist at a designated place, declaring that the discharging operations have been completed in the prescribed manner.

14.1.6 Loading operations

When carrying out loading operations, the supply depot or refinery is in charge of, and responsible for, the work area including the ship's mooring berth and the part of the pipeline system used from the supply depot or refinery.

14.1.7 Vessels with agreed arrangements on "Key discharging"

Depot supervisors and ships that meet the safety and training criteria for crew as approved by the Port of Gothenburg according to agreed arrangements are responsible for coordinating operations. In these cases, the master/ship's officer is responsible for the quayside operations. Both the holder of the berth equipment for "key discharging" and a ship using the equipment are obligated to inform all users concerned immediately of any alterations to equipment or their operations.

14.1.8 Pumping between companies

When pumping between companies, the recipient company is in charge of, and responsible for, the work area including the pipelines used. A company pumping between its own depots, is in charge of, and responsible for, the work area including the pipelines used.

14.1.9 Other work

When work is being carried out outside leasehold areas and holdings within the Energy Port, the client commissioning the work is in charge of, and responsible for, the work area. A work area is considered to be set up when a work permit has been signed by a responsible terminal representative. The work area is considered dismantled when a responsible representative for the Energy Port has inspected the site and signed the permit.

14.2 WORK PERMITS

14.2.1 Work permits in general

A person/company intending to carry out work in an area not under their direct control must obtain a permit from the person/company in charge of the work area (work permit). A responsible terminal representative on duty has the right to inspect and stop work if necessary, even inside leasehold areas.

14.2.2 Work permit for areas within the Port of Gothenburg

A person/company intending to carry out work on equipment located on the Port of Gothenburg's land, berths and in the waters in the Energy Port, i.e. outside leasehold areas and holdings, must inform Gothenburg Energy Port before any work can commence (appendix H).

14.2.3 Hot work

In addition to a work permit, a special hot work permit is required for work with open flames, heat, hot surfaces, tools that may cause sparks to arise or electrical equipment not approved for use in areas where flammable gases can occur. A fire engineer and a certified terminal representative have the authority to issue hot work permits for the Port of Gothenburg's equipment and areas. A responsible terminal representative also has the right to cancel or immediately suspend work if the instructions given are not being followed, or if there is a probable risk for an incident or accident occurring (appendix I).

The responsibility for obtaining a work permit lies with whoever intends to carry out the activity that requires a permit in that particular area. There is also a responsibility to consult the Rescue Services and/or the Port of Gothenburg's fire engineer.

An application for a temporary hot work permit within the Energy Port should be submitted to Gothenburg Energy Port before the planned start of the work.

14.2.4 Co-operation permits (for hot work)

The SRV:FS 2004:7 9§ (Emergency Rescue) stipulates that in areas where there are several business operations that handle flammable gases and liquids, one of the operations should be responsible for coordinating the protection work. Within Gothenburg Energy Port, Gothenburg Port Authority is responsible for co-operation. The person responsible for issuing permits at each business operation is responsible for ensuring the hot work and planned discharge of gas are reported to ensure co-operation. Applications for co-operation permits should be submitted via the port's website www.portofgothenburg.com where additional information can also be found (appendix J).

14.3 THE CO-OPERATION COMMITTEE FOR GOTHENBURG ENERGY PORT

All leaseholders and title deed holders in the Energy Port shall participate on the co-operation committee for Gothenburg Energy Port. The co-operation committee deals with and decides on joint issues regarding the environment, work environment, safety and other joint issues. The co-operation committee includes representatives of Statoil and the refineries in Gothenburg as well as representatives of the Swedish Petroleum & Biofuels Institute, the County Administrative Board and the Greater Gothenburg Rescue Services. The Port of Gothenburg chairs the committee.

15 PROCEDURES FOR WATCH OFFICERS AND PIPELINE WATCH OFFICERS (SUPERVISORS)

15.1 APPLICATION

With reference to Section 12.1 it is incumbent on the responsible operational loading master to provide watch officers and pipeline supervisors according to the procedures below. It is incumbent on the responsible operational representative to decide how many watch officers and supervisors are required so as not to jeopardise safe handling, given the circumstances relating to the particular operation (see also Section 15.5). A pipeline watch officer should supervise the pipelines being used for pumping within Gothenburg Energy Port. When pumping via the Port of Gothenburg's pipeline system, there is a special agreement on who can carry out the supervision.

15.2 AUTHORISATION

The responsible operational loading master, must have a certificate of completion of a training course for unloading supervisors, as approved by the Port of Gothenburg. The responsible operational representative must also have good local knowledge of the actual work area and the relevant equipment. A watch officer/pipeline supervisor must, in addition to theoretic education, also have good practical knowledge of the operation and the objects to be supervised. Generally, a watch officer/pipeline supervisor must also be suitable for the task. The responsible operational loading master is responsible for ensuring that watch officers and pipeline supervisors meet the above-mentioned requirements.

15.3 IDENTIFICATION

Watch officers/jetty operators should wear orange helmets marked "Jetty Operator".

15.4 COMMUNICATIONS

Watch officers and pipeline supervisors should be equipped with a communications system of an approved type (explosion proof), which in the case of a watch officer can be a radio or a telephone, and for a pipeline supervisor, a radio. During loading or discharging operations, the watch officer should be continuously connected to the ship and the depot/refinery.

During loading or discharging operations, the pipeline supervisor should be continuously connected to the watch officer and to the supply and recipient depot/refinery, during pumping operations between depots.

15.5 MINIMUM NUMBER OF WATCH OFFICERS

15.5.1 Normal situation

There must be at least one watch officer by every ship that is loading or discharging. The watch officer cannot, at the same time, be the loading master or pipeline supervisor.

15.5.2 Exceptions at Tor Harbour

When loading and discharging at Tor Harbour berths 800 and 801, the following rules apply:

- when discharging a ship, at least two watch officers must be present at the pier, one of whom must always be present at the ship's berth.
- when discharging two ships simultaneously, at least three watch officers must be present at the pier, one of whom must always be present at each berth.

15.5.3 Additional supervision

In consideration of certain safety and environmental hazards, the responsible terminal representative may temporarily order additional supervision.

15.6 REPORTING

15.6.1 Watch officer

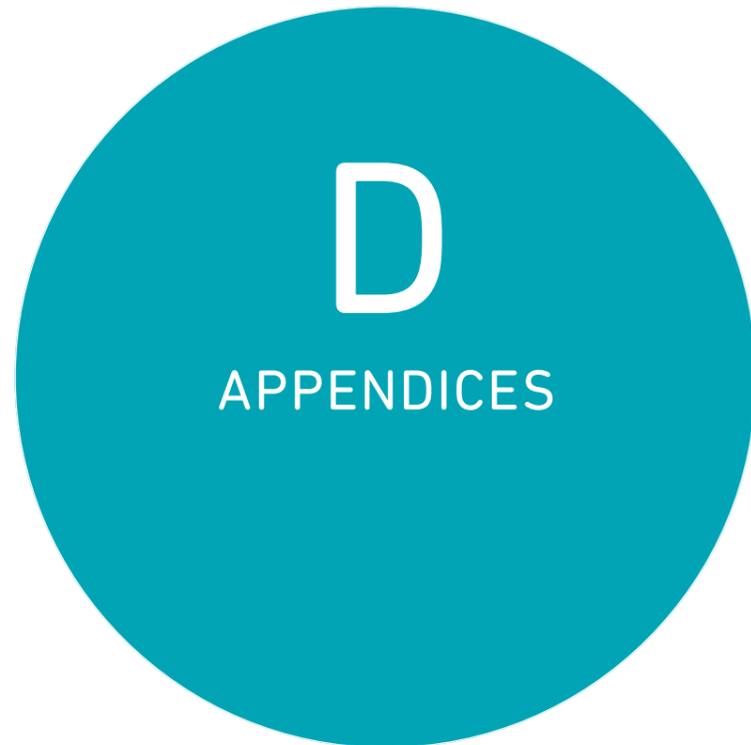
A watch officer, at a ship without an agreed arrangement, should keep a record during loading and discharging operations, according to appendix K. After each loading or discharging operation, this report should be submitted to the responsible depot/refinery representative as well as to the responsible terminal representative.

15.6.2 Pipeline watch officer (supervisor)

A pipeline supervisor must keep a record during every pumping operation according to appendix L. When the pipeline is no longer being used, the report should be submitted to the depot responsible for the operation.

15.7 DEVIATION REPORTS

Watch officers and pipeline supervisors should report immediately to the depot responsible for the operation if there are deviations from these operational procedures or from instructions given by the Energy Port, Faulty equipment must be reported immediately to the owner of the facility.



D
APPENDICES

- Appendix A)** Area of responsibility – Skarvik and Rya Harbours
- Appendix B)** Area of responsibility – Tor Harbour
- Appendix C)** Area of responsibility – Skandia Harbour berth 644
- Appendix D)** Procedures on board
- Appendix E)** Ship/Shore Safety Checklist Parts A/B and Parts C/D
- Appendix F)** Cargo handling plan
- Appendix G)** Checklist for tank cleaning
- Appendix H)** Work permit
- Appendix I)** Temporary hot work permit
- Appendix J)** Zones for hot work permit
- Appendix K)** Jetty Operator report
- Appendix L)** Pipeline Operator report
- Appendix M)** Regulations for bunker operations of Class 1 vessels

Procedures onboard ships in the Gothenburg Energy Port in case of fire or outflow of product

FIRE

- **SOUND THE ALARM** by repeated long signals with ship's typhoon or alarm bells
- **CALL** | **Skarvik Harbour / Rya Harbour and jetty 644** on VHF frequency 12 (or by phone **+46 31 368 75 25**) or by alarm button on the berth | **Tor Harbour** on VHF frequency 15 or 17 (or by phone **+46 31 368 75 30**) or by alarm button on the berth
- **MAKE ARRANGEMENTS TO FIGHT THE FIRE**
- **STOP ALL CARGO OPERATIONS AND CLOSE ALL CARGO VALVES**
- **CHECK THAT ALL TANK AND ULLAGE HATCHES ARE CLOSED**
- **STAND BY TO DISCONNECT CARGO HOSES/ARMS**
- **MAKE READY FOR THE EVENTUALITY OF UMBERTHING**

OUTFLOW OF FAMMABLE/POISONOUS GAS OR LIQUID

- **STOP ALL CARGO OPERATIONS AND CLOSE ALL CARGO VALVES**
- **SOUND THE ALARM** by repeated long signals with ship's typhoon or alarm bells
- **CALL** | **Skarvik Harbour / Rya Harbour and jetty 644** on VHF frequency 12 (or by phone **+46 31 368 75 25**) or by alarm button on the berth | **Tor Harbour** on VHF frequency 15 or 17 (or by phone **+46 31 368 75 30**) or by alarm button on the berth

OTHER CARGO OUTFLOWS

- **STOP ALL CARGO OPERATIONS AND CLOSE ALL CARGO VALVES**
- **CALL** | **Skarvik Harbour / Rya Harbour and jetty 644** on VHF frequency 12 (or by phone **+46 31 368 75 25**) or by alarm button on the berth | **Tor Harbour** on VHF frequency 15 or 17 (or by phone **+46 31 368 75 30**) or by alarm button on the berth

INJURY TO PERSON

- **CALL** | **Skarvik Harbour / Rya Harbour and jetty 644** on VHF frequency 12 (or by phone **+46 31 368 75 25**) or by alarm button on the berth | **Tor Harbour** on VHF frequency 15 or 17 (or by phone **+46 31 368 75 30**) or by alarm button on the berth

Ship's Name	Berth
Date of Arrival	Terminal
Time of Arrival	Operation

CODING OF ITEMS: A – "Agreement" / P – "Permission" / R – "Re-check". See ISGOTT guidelines 26.3.2.2
For bulk liquid operations see Appendix 1 (Part C). For bulk liquefied gases see Appendix 2 (Part D).

PART 'A' – BULK LIQUID GENERAL – PHYSICAL CHECKS

Bulk Liquid – General	Ship	Term	Code	Remarks
1. There is safe access between the ship and shore.			R	
2. The ship is securely moored.			R	
3. The agreed ship/shore communication system is operative.			A R	System Back up system
4. The method of removing the vessel from the berth in an emergency has been discussed and agreed, as appropriate.				
5. The ship's fire hoses and fire-fighting equipment is positioned and ready for immediate use.			R	
6. The terminal's fire-fighting equipment is positioned and ready for immediate use.			R	
7. The ship's cargo and bunker hoses, pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended.				Date of last Pressure test:
8. The terminal's cargo and bunker hoses/arms are in good condition, properly rigged and appropriate for the service intended.				Date of last Pressure test:
9. The cargo transfer system is sufficiently isolated and drained to allow safe removal of blank flanges prior to connection.				
10. Scuppers and save alls on board are effectively plugged and drip trays are in position and empty.			R	
11. Temporarily removed scupper plugs will be constantly monitored.				
12. Shore spill containment and sumps are correctly managed.			R	
13. The ship's unused cargo and bunker connections are properly secured with blank flanges fully bolted.				
14. The terminal's unused cargo and bunker connections are properly secured with blank flanges fully bolted.				
15. All cargo, ballast and bunker tank lids are closed.				
16. Sea and overboard discharge valves, when not in use, are closed and visibly secured.				
17. All external doors, ports and windows in the accommodation, stores and machinery spaces are closed. Engine room vents may be open.			R	
18. The ship's emergency fire control plans are located externally.				Location

If the ship is fitted, or is required to be fitted, with an Inert Gas System (IGS) the following points should be physically checked:

Inert Gas System	Ship	Term	Code	Remarks
19. Fixed IGS pressure and oxygen content recorders are working.			R	
20. All cargo tank atmospheres are at positive pressure with oxygen content of 8% or less by volume.			P R	

PART 'B' – BULK LIQUID GENERAL – VERBAL VERIFICATION

Bulk Liquid – General	Ship	Term	Code	Remarks
21. The ship is ready to move under its own power.			P R	
22. There is an effective deck watch in attendance on board and adequate supervision of operations on the ship and in the terminal.			R	
23. There are sufficient personnel on board and ashore to deal with an emergency.			R	
24. The procedures for cargo, bunker and ballast handling have been agreed.			A R	Flashpoint of last cargo°C
25. The emergency, signal and shutdown procedure to be used by the ship and shore have been explained and understood.			A	
26. Material safety data sheets (MSDS) for the cargo transfer have been exchanged where requested.				
27. The hazards associated with toxic substances in the cargo being handled have been identified and understood.				H ₂ S Content Mercaptan Content Benzene Content
28. An International Shore Fire Connection has been provided.				
29. The agreed tank venting system will be used.			A R	Method
30. The requirements for closed operations have been agreed.			R	
31. The operation of the P/V system has been verified.				
32. Where a vapour return line is connected, operating parameters have been agreed.			A R	
33. Independent high level alarms, if fitted, are operational and have been tested.			A R	
34. Adequate electrical insulating means are in place in the ship/shore connection.			A R	Insulated flanges on jetty manifold
35. Shore lines are fitted with a non-return valve or procedures to avoid 'back filling' have been discussed.			P R	
36. Smoking rooms have been identified and smoking requirements are being observed.			A R	Nominated smoking rooms:
37. Naked light regulations are being observed.			A R	
38. Ship/shore telephones, mobile phones and pager requirements are being observed.			A R	
39. Hand torches (flashlights) are of an approved type.				

Bulk Liquid – General	Ship	Term	Code	Remarks
40. Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off.				
41. Portable VHF/UHF transceivers are of an approved type.				
42. The ship's main radio transmitter aerials are earthed and radars are switched off.				
43. Electric cables to portable electrical equipment within the hazardous area are disconnected from power.				
44. Window type air conditioning units are disconnected.				
45. Positive pressure is being maintained inside the accommodation, and air conditioning intakes, which may permit the entry of cargo vapours, are closed.				
46. Measures have been taken to ensure sufficient mechanical ventilation in the pump room.			R	
47. There is provision for an emergency escape.				
48. The maximum wind and swell criteria for operations has been agreed.			A	Stop operations at 20 m/s mean wind speed Disconnect at 20 m/s Unberth at: Instruction from Port Officer
49. Security protocols have been agreed between the Ship Security Officer and the Harbour Office, if appropriate.			A	Level 1: Unscheduled checks of visitors and deliveries may occur by personnel from Harbour Office Level 2 and above: Agreement to be established between ship and port
50. Where appropriate, procedures have been agreed for receiving nitrogen supplied from shore, either for inerting or purging ship's tanks, or for line clearing into the ship.			A P	
51. Bunkering is planned. * Delete Yes or No as appropriate.	Yes/ No*		A P	Grade 1 Quantity Grade 2 Quantity
52. Sludge/slop/dirty ballast will be discharged. * Delete Yes or No as appropriate.	Yes/ No*		A P	Sludge quantity m ³ Slop quantity m ³ Dirty ballast quantity m ³

If the ship is fitted, or is required to be fitted, with an Inert Gas System (IGS) the following statements should be addressed:

Inert Gas System	Ship	Term	Code	Remarks
53. The IGS is fully operational and in good working order.			P	
54. Deck seals, or equivalent, are in good working order.			R	
55. Liquid levels in pressure/vacuum breakers are correct.			R	
56. The fixed and portable oxygen analysers have been calibrated and are working properly.			R	
57. All the individual tank IGS valves (if fitted) are correctly set and locked.			R	
58. All personnel in charge of cargo operations are aware that in the case of failure of the Inert Gas Plant, discharge operations should cease, and the terminal be advised.				

If the ship is fitted with a crude oil washing (COW) system, and intends to COW, the following statements should be addressed.

Crude Oil Washing	Ship	Term	Code	Remarks
59. The Pre-Arrival COW checklist, as contained in the approved COW manual, has been satisfactorily completed.				
60. The COW checklists for use before, during and after COW, as contained in the approved COW manual, are available and being used.			R	

If the ship is planning to tank clean alongside, the following statements should be addressed.

Tank Cleaning	Ship	Term	Code	Remarks
61. Tank cleaning operations are planned during the ship's stay alongside the shore installation. If YES – permission has to be granted by the Harbour Office. * Delete Yes or No as appropriate.	Yes/ No*	Yes/ No*		

DECLARATION

We, the undersigned, have checked the above items in Parts A and B, and where appropriate, Part C or D, in accordance with the instructions and have satisfied ourselves that the entries we have made are correct to the best of our knowledge.

We have also made arrangements to carry out repetitive checks as necessary and agreed that those items coded 'R' in the Checklist should be re-checked at intervals not exceeding 4 hours.

If to our knowledge the status of any item changes, we will immediately inform the other party.

For the Ship	For the Terminal
Name	Name
Rank	Position
Signature	Signature
Date	Date
Time	Time

	Name	Date	Time	Sign
Jetty Operator informed				



SHIP/ShORE SAFETY CHECKLIST

Ship's Name

Date

APPENDIX

E

Appendix 1

PART 'C' – BULK LIQUID CHEMICAL – VERBAL VERIFICATION

Bulk Liquid Chemicals	Ship	Term	Code	Remarks
1. Material Safety Data Sheets are available giving the necessary data for the safe handling of the cargo.				
2. A manufacturers inhibition certificate, where applicable, has been provided.			P	
3. Sufficient protective clothing and equipment (including self-contained breathing apparatus) is ready for immediate use and is suitable for the product being handled.				
4. Counter measures against accidental personal contact with the cargo have been agreed.				
5. The cargo-handling rate is compatible with the automatic shut down system, if in use.			A	
6. Cargo system gauges and alarms are correctly set and in good order.				
7. Portable vapour detection instruments are readily available for the products being handled.				
8. Information on fire-fighting media and procedures has been exchanged.				
9. Transfer hoses are of suitable material, resistant to the action of the products being handled.				
10. Cargo handling is being performed with the permanent installed pipeline system.			P	



SHIP/ShORE SAFETY CHECKLIST

Ship's Name

Date

APPENDIX

E

Appendix 2

PART 'D' – BULK LIQUEFIED GASES – VERBAL VERIFICATION

Bulk Liquefied Gases	Ship	Term	Code	Remarks
1. Material Safety Data Sheets are available giving the necessary data for the safe handling of the cargo.				
2. A manufacturers inhibition certificate, where applicable, has been provided.			P	
3. The water spray system is ready for immediate use.				
4. There is sufficient suitable protective equipment (including self-contained breathing apparatus) and protective clothing ready for immediate use.				
5. Hold and inter-barrier spaces are properly inerted or filled with dry air, as required.				
6. All remote control valves are in working order.				
7. The required cargo pumps and compressors are in good order, and the maximum working pressures have been agreed between ship and shore.			A	
8. Re-liquefaction or boil off control equipment is in good order.				
9. The gas detection equipment has been properly set for the cargo, is calibrated, has been tested and inspected and is in good order.				
10. Cargo system gauges and alarms are correctly set and in good order.				
11. Emergency shutdown systems have been tested and working properly.				
12. Ship and shore have informed each other of the closing rate of ESD valves, automatic valves or similar devices.			A	ShipS. ShoreS.
13. Information has been exchanged between ship and shore on the maximum/minum temperatures/pressures of the cargo to be handled.			A	
14. Cargo tanks are protected against inadvertent overfilling at all times while any cargo operations are in progress.				
15. The compressor room is properly ventilated; the electrical motor room is properly pressurised and the alarm system is working.				
16. Cargo tank relief valves are set correctly and actual relief valve settings are clearly and visibly displayed. (Record settings below)				

Tank No 1	<input type="text"/>	Tank No 5	<input type="text"/>	Tank No 8	<input type="text"/>
Tank No 2	<input type="text"/>	Tank No 6	<input type="text"/>	Tank No 9	<input type="text"/>
Tank No 3	<input type="text"/>	Tank No 7	<input type="text"/>	Tank No 10	<input type="text"/>
Tank No 4	<input type="text"/>				



RECORD OF RECHECKS

Original: Terminal • Copy 1: Ship • Copy 2: Jetty Operator

APPENDIX
E
Appendix 3

We have also made arrangements to carry out repetitive checks as necessary and agreed that those items coded 'R' in the **Ship Shore Safety** Checklist should be rechecked at intervals not exceeding 4 hours.

If to our knowledge the status of any items changes, we will immediately inform the other party.

For Ship	For Shore
Shipsname	Name
Name	Rank
Rank	Signature
Signature	Date and time.....
Date and time.....	

RECORD OF REPETITIVE CHECKS

Date									
Time									
Initials for Ship									
Initials for Shore									

Date									
Time									
Initials for Ship									
Initials for Shore									

Date									
Time									
Initials for Ship									
Initials for Shore									

Upon completion	Ship	Term	Code	Remarks
1. Has the operation been completed without any damage to the equipment, and are all lines properly closed and blanked without any spill having occurred? * Delete Yes or No as appropriate.	Yes/ No*	Yes/ No*		

For the Ship	For the Terminal
--------------	------------------



CARGO HANDLING PLAN LOADING/DISCHARGING

Original: Terminal • Copy 1: Ship • Copy 2: Jetty Operator
Copy 3: Port of Gothenburg

APPENDIX
F

Ship's Name	Jetty
Date	Company
Mobile Telephone	Telephone
Ind. surv.	Telephone
Port Officer: Telephone +46 31 368 75 25 or VHF channel 12, Skarvik Harbour Telephone +46 31 368 75 30 or VHF channel 15/17, Tor Harbour	In charge after off. hours Telephone

Product	Shore tank number	Dens 15° (VAC)	Cargo temp	Estimated volume m ³ /ton		Cargo handling sequence	Max. available rate m ³ /ton			Top off
				Ship	Shore		Start	Ship	Shore	

Product	Name and number shoreline	Hose	Ship's manifold	Max pressure	Ship's tanks	Est. load/discharge time	Short stop		Final stop		Stand by times
							Shore	Ship	Shore	Ship	

Last cargo	Flashpoint	Bill of Lading	
		Air	Vacuum
SlopWater	Volume	Containing	
Additional orders			

Agreed communication

Telephone Radio communication Within hearing distance

Jetty operator informed	Name	Date	Time	Sign

..... Captain/Chief Off Terminal responsible

BACKGROUND AND GENERAL REGULATIONS

1.0 INTERNATIONAL AND SWEDISH RULES

All tank cleaning operations carry a risk for combustion of flammable gases in the tanks. Cleaning also means the emission of flammable and hazardous gases. Tanks may only be cleaned in the port area provided all the conditions stipulated in these rules are met.

For operations on oil tankers, the International Chamber of Shipping, the Oil Companies International Marine Forum and the International Association of Ports and Harbours have published safety guidelines in the "International Safety Guide for Oil Tankers and Terminals", second edition published in 1984.

For operations on chemical tankers, the International Chamber of Shipping has published safety guidelines in the Tanker Safety Guide (Chemicals).

Note A new edition of the Tanker Safety Guide (Chemicals) entitled International Safety Guide for Chemical Tankers and Terminals is expected to be published in the beginning of 1987.

With regard to the handling of inert gas systems, there is also a handbook for the system and guidelines for inert gas facilities, "Revised Guidelines for Inert Gas Systems" in its latest edition (MSC/Circ 353) adopted by the IMO Sea Safety Committee, which is to be followed.

Work on vessels must be carried out in compliance with the relevant parts of the above-mentioned international guidelines.

The regulations published by the Swedish Maritime Administration or internationally recognised rules regarding the vessel's construction, equipment and handling procedures must be met.

2.0 GUIDELINES

2.1 Gas measuring

Mandatory gas measurements should be carried out by authorised personnel. This person should be authorised according to Section 2.3.2. The results of the measurement must be recorded.

2.2 Watch officer

2.2.1 The Master of the vessel must appoint a watch officer. The officer should have special authority for handling cargo oil and/or chemical cargo, depending on the vessel's cargo.

2.2.2 There must be proof of this special authority in the form of a certificate showing that the holder meets all the criteria stipulated in Rule V/I, Section 2, or Rule V/2, Section 2 in the 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).

2.2.3 A watch officer must be present on deck when a tank that has contained flammable liquids with a flashpoint not exceeding 60° C (closed container) is being cleaned. A watch officer must also be on deck when a tank is being cleaned with wash water at a temperature that is below the flashpoint of the liquid that the tank has contained, by a factor of less than 10° C.

2.2.4 A watch officer must also be on deck when wash water is being pumped ashore.

2.3 Reporting

The Master or officer in charge must report to the port of his intention to clean or ventilate the ship's tanks at least 6 hours prior to commencing the work.

2.4 Checklist

Tank cleaning operations may only commence after the checklist (appendix) has been completed by the Master or officer in charge and approved by the responsible terminal representative.

2.5 Communication

When cleaning, ventilating and discharging wash water, there must be a secure line of communication between the watch officer and the responsible terminal representative must be established and maintained.

2.6 Venting

Venting may only be done via the tanks' ventilation systems.

2.7 Inspection

The port reserves the right to check that the equipment used for cleaning and venting tanks is in proper condition and that the methods stipulated are suitable.

3.0 CLEANING SHIP TANKS THAT HAVE CONTAINED FLAMMABLE LIQUIDS WITH A FLASHPOINT NOT EXCEEDING 60° C

Introduction

Tanks may only be cleaned in an inert, under-carburetted or unchecked atmosphere in the port area provided that all the safety regulations and conditions below have been met.

3.1 Inert atmosphere

Before starting tank cleaning operations, the tank atmosphere must be checked to ensure that the oxygen content does not exceed 8% by volume in the entire tank. Throughout the cleaning operations positive pressure must be maintained in the system. Inert gas supplied to maintain this positive pressure must be carefully checked regarding the oxygen content.

If the oxygen content exceeds 8% by volume in the cargo tank or the slop tank, or if under-pressure has developed in the tank, the cleaning operations must stop and the tank filled with inert gas until the oxygen content throughout the tank is 8% by volume or below. The above-mentioned statement regarding maximum oxygen content only applies to atmosphere containing hydrocarbons.

In a flammable atmosphere containing gases from chemicals, the actual safety oxygen content might be lower and must be verified in every individual case.

3.2 Under-carburetted atmosphere

3.2.1 Venting

Before cleaning, the tank must be ventilated until the gas concentration in the atmosphere has been reduced to a maximum of 10% of the lower flammable limit (LFL).

During tank cleaning operations, measurements must be taken at regular intervals and, in the initial stages, very frequently. Mechanical ventilation must be continuous.

If a cargo tank has a ventilation system shared with other tanks and the above-mentioned conditions are not met, this tank must be separated from the shared ventilation system.

3.2.2 Portable cleaning equipment

If portable cleaning equipment is being used, all hose connections should be connected before the equipment is put in the tank, and they must not be disconnected until after the equipment has been removed from the tank.

3.2.3 Elevated gas concentration

All cleaning must be stopped if the gas concentration rises to 50% of LFL. Cleaning can be restarted when the gas concentration has dropped to 20% of LFL through prolonged ventilation.

When using hot wash water, see Section 3.2.8.

3.2.4 Recirculation

Used wash water must not be recirculated.

3.2.5 Steam

Steam should not be injected into cargo tanks when cleaning.

3.2.6 Static electricity

Precautionary measures must be taken to prevent static electricity according to the guidelines stipulated in Section 1.0.

3.2.7 Chemical additives

Chemical additives may be used if the temperature of the wash water does not exceed 60° C. The Master or officer in charge must ensure that there are adequate facilities for discharging such chemically contaminated wash water.

3.2.8 Cleaning with hot water

Hot water can be used for cleaning under the following conditions:

- If the temperature of the wash water does not exceed 60° C, cleaning operations must be stopped if the gas concentration rises to 50% of LFL.
- If the temperature of the wash water exceeds 60° C, cleaning operations must be stopped if the gas concentration rises to 35% of LFL.
- Cleaning operations that have been interrupted should only be resumed when the gas concentration has dropped to 20% of LFL through prolonged ventilation.

3.2.9 Draining

Cargo tanks should be drained and water should not be permitted to accumulate when cleaning. If the water rises to an abnormal level, tank cleaning operations must be stopped.

3.3 Unchecked atmosphere

3.3.1 Maximum tank volume

A cargo tank measuring more than 3000 m³ should not be cleaned.

3.3.2 Capacity of cleaning equipment

The capacity of each nozzle in the cleaning equipment must not exceed 17.5 m³/h, and the total capacity must not exceed 110 m³/h.

3.3.3 Portable cleaning equipment

If portable cleaning equipment is being used, all hose connections should be connected before the equipment is brought into the tank, and they must not be disconnected until after the equipment has been removed from the tank.

3.3.4 Recirculation

Used wash water must not be recirculated.

3.3.5 Steam

Steam should not be injected into cargo tanks when cleaning.

3.3.6 Chemical additives

Chemical additives must not be used.

3.3.7 Heating of wash water

Wash water must not be heated to temperatures in excess of 60° C.

3.3.8 Draining

Tanks should be drained and water should not be permitted to accumulate when cleaning. If the water rises to an abnormal level, tank cleaning operations must be stopped.

3.3.9 Static electricity

Precautionary measures must be taken to prevent static electricity according to the guidelines stipulated in Section 1.0.

4.0 CLEANING SHIP TANKS THAT HAVE CONTAINED FLAMMABLE LIQUIDS WITH A FLASHPOINT EXCEEDING 60° C

Cargo tanks may be cleaned with water that does not contain any chemical additives and which has a temperature that is at least 10° C lower than the flashpoint of the liquid previously stored in the tank. In other cases the precautionary measures in Sections 3.1, 3.2 and 3.3 apply.

5.0 SLOP TANK

The use of slop or cargo tanks for recirculating or collecting wash water is only allowed on permission by authorised responsible terminal representative.

Note There is always a risk of gas and electrostatic charges being transferred to a slop tank by draining with the risk of the atmosphere in the slop tank becoming flammable and electrostatically charged. A slop tank that is not protected by an inert gas system must be carefully ventilated in order to keep the atmosphere under-carburetted, which can be easily done by keeping the highest possible liquid level. Checking by measuring should be done at frequent intervals or continuously. Free fall of wash water is not allowed in slop or cargo tanks. The safety oxygen content might be lower and must be verified in every individual case.

Ship's Name Port Berth

Date cleaning is to be carried out Time cleaning is to be carried out, from to

This checklist is an addendum to the Ship/Shore Safety Checklist, which should always be completed as soon as a ship moors at a berth. Cargo tanks may not be cleaned before the checklist has been completed and permission has been granted by the responsible terminal representative. Cleaning operations must be stopped immediately if conditions onboard or onshore so demand. Cleaning operations must not be resumed until the responsible terminal representative has granted permission to do so.

A	GENERAL (MUST ALWAYS BE ANSWERED)	Yes	No	Comment
A1	Are all ship's officers onboard familiar with the current rules regarding tank cleaning operations in the port?	<input type="checkbox"/>	<input type="checkbox"/>	
A2	Have necessary communication lines been established between the ship and berth, and are these being maintained?	<input type="checkbox"/>	<input type="checkbox"/>	
A3	Will the ship's cargo tanks be ventilated?	<input type="checkbox"/>	<input type="checkbox"/>	
A4	Have the cargo tanks to be cleaned contained liquids with a flashpoint below 60°C?	<input type="checkbox"/>	<input type="checkbox"/>	
A5	Is the temperature of the wash water lower than the flashpoint of the liquids in the cargo tank – by a factor of less than 10°C ?	<input type="checkbox"/>	<input type="checkbox"/>	
A6	Is the wash water temperature gauge system fully operational and in good working order?	<input type="checkbox"/>	<input type="checkbox"/>	
A7	Has a watch officer with approved certification been appointed to supervise the deck throughout the cleaning operations?	<input type="checkbox"/>	<input type="checkbox"/>	
A8	Will wash water be pumped ashore during the cleaning operations?	<input type="checkbox"/>	<input type="checkbox"/>	
A9	If yes to A8: Has a watch officer with approved certification been appointed to supervise the deck when the wash water is being pumped ashore?	<input type="checkbox"/>	<input type="checkbox"/>	
B CLEANING IN AN INERT ATMOSPHERE				
B1	Will cleaning operations be carried out in an inert atmosphere?	<input type="checkbox"/>	<input type="checkbox"/>	
B2	Is the inert gas system and necessary measuring equipment fully operational and in good working order?	<input type="checkbox"/>	<input type="checkbox"/>	
C CLEANING IN AN UNDER-CARBURETTED ATMOSPHERE				
C1	Will cleaning operations be carried out in an under-carburetted atmosphere?	<input type="checkbox"/>	<input type="checkbox"/>	
C2	Is the necessary gas measuring equipment fully operational and in good working order?	<input type="checkbox"/>	<input type="checkbox"/>	
D CLEANING IN AN UNCHECKED ATMOSPHERE				
D1	Will cleaning operations be carried out in an atmosphere other than an inert or under-carburetted atmosphere?	<input type="checkbox"/>	<input type="checkbox"/>	
D2	Is the volume of the cargo tanks to be cleaned less than 3000 m ³ each, and is the capacity of each washing nozzle less than 17.5 m ³ /h and is the total capacity of all nozzles in each tank less than 110 m ³ /h?	<input type="checkbox"/>	<input type="checkbox"/>	

I the undersigned have checked the items on this checklist and am satisfied that the entries made are correct to the best of my knowledge. I have also familiarised myself with the current rules regarding tank cleaning operations with water in the port and undertake to follow them.

Date

Ship

Signature

Name in full

Rank

The ship is permitted to carry out tank cleaning operations provided that the rules and regulations are followed at all times.

Date

PORT OF GOTHENBURG

Signature

Name in full

Position

1-7. APPLICATION

- Contractor
- Location of work
- Description of work
- Supervisor Telephone
- Permit holder Telephone
- Responsible coordinator (If several companies or subcontractors)
- Planned starting time of hot work 20..... - - Planned finishing time of hot work 20..... - -

8. TEMPORARY HOT WORK PERMIT

Valid: From 20..... - - To 20..... - - Hot Work Permit No.

9. WORKING CONDITIONS

Protective equipment/training <input type="checkbox"/> All have completed Green Card training <input type="checkbox"/> Life vests <input type="checkbox"/> Helmet <input type="checkbox"/> Safety goggles LEL H ₂ S O ₂ <input type="checkbox"/> Personal gas indicator <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Filter mask <input type="checkbox"/> BA set/fresh air breathing apparatus <input type="checkbox"/> Other	Measures <input type="checkbox"/> Gas tests <input type="checkbox"/> Enclosed space metres <input type="checkbox"/> Electrical disconnection <input type="checkbox"/> Flange/valve opening..... <input type="checkbox"/> Number of watch officers...../team <input type="checkbox"/> Fence electricity On/Off <input type="checkbox"/> Pipeline operator informed when entering p-stations and work on Gothenburg Energy Port's pipelines.	Risk analyses <input type="checkbox"/> Work at significant heights <input type="checkbox"/> Scaffolding <input type="checkbox"/> Closed spaces <input type="checkbox"/> Asbestos <input type="checkbox"/> Hydrogen sulphide <input type="checkbox"/> Nitrogen gas <input type="checkbox"/> Heavy lifting <input type="checkbox"/> Excavating or piling
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10. ADJACENT DEPOTS/SHIPS

Depot Permission granted by Time

Depot Permission granted by Time

Depot Permission granted by Time

Contact must be made because of: General info Operational limits Detectors being switched off

11. SAFETY INFORMATION AND GRANTING OF PERMISSION

The permit holder's Green Card has been checked by Port of Gothenburg, via the database on www.grontkort.nu <input type="checkbox"/> Yes <input type="checkbox"/> No	I fully understand the above-mentioned working terms and conditions and by signing hereto, I undertake to follow all of them Permit holder/Supervisor Gothenburg 20..... - -
Permission granted Issued by	

12. PERIOD OF VALIDITY

This permit is valid until 16:00 (4 pm) unless stated otherwise below. If an emergency alarm sounds, the permit is immediately rendered invalid. The work area must then be secured and a new permit must be applied for when the emergency is over.

Date	time	Finished at	Sign. of person issuing permit	Permit holder	Only cold work
.....	<input type="checkbox"/>
.....	<input type="checkbox"/>
.....	<input type="checkbox"/>
.....	<input type="checkbox"/>
.....	<input type="checkbox"/>

13. WORK COMPLETED

It is hereby certified that the work: Is in progress and will be replaced by permit no.

Is finished and everything has been restored The work area has been cleaned up

Permit holder/Contractor: 20..... - -

Issued by: 20..... - -

1-7. APPLICATION

Personnel at Gothenburg's Energy Port with the requisite competence and Green Card training are authorised to apply for permits. Applications should be submitted to the person issuing the permit no later than 24 hours before the start of the designated hot work.

When hot work is to be carried out within Gothenburg Energy Port's coordinated area of responsibility, a work permit must always be obtained from Gothenburg Energy Port's Port Office.

NB! A written permit must always be available at the work site. If there is more than 1 contractor at the work site, all permits must be available at the site. When work is finished for the day, the permit must be submitted to Gothenburg Energy Port's Port Office.

8. TEMPORARY HOT WORK PERMIT

Applications for temporary hot work permits must be submitted to the fire safety engineer at Gothenburg Energy Port.

9. WORKING CONDITIONS

When applying, the applicant for a temporary hot work permit must fill in details of the proposed working conditions. The person issuing the permit may stipulate further terms and conditions.

10. ADJACENT DEPOTS/SHIPS/EQUIPMENT

When issuing a permit Gothenburg Energy Port must specify which depots are within a 25 m radius of the work area and must therefore be informed and approve the hot work.

11. SAFETY INFORMATION & PERMIT

For contractors (not employees of Gothenburg Energy Port) who sign here, there are responsibilities other than those stipulated in the working terms and conditions; responsibilities for ensuring that the working methods and practices and equipment comply with all laws, rules and regulations.

The supervisor in charge of the designated work area is responsible for ensuring compliance with the law, with regulations and other conditions stipulated by the authorities as well as with the specific terms and conditions of the work permit. Note that a responsible coordinator must be appointed if more than one company will be carrying out work within the designated area, according to the Swedish Working Environment Ordinance (SFS 1977:1160). In this case this person should sign the work permit.

12. PERIOD OF VALIDITY

The work permit can be extended for a maximum of 5 working periods, provided that the conditions stated also apply to the extension period. If this is not the case, then a new permit must be applied for.

13. WORK COMPLETED

When the work area is being dismantled, the Gothenburg Energy Port should be notified. Responsibility for coordination remains with the permit holder until the work area has been dismantled by Gothenburg Energy Port's Port Office.

THESE ARE THE PROCEDURES TO BE FOLLOWED IN CASE OF AN ACCIDENT IN THE ENERGY PORT

Fire

1. Press the nearest fire alarm button or call 112
2. Alert Skarviksporten (Skarvik Gate) +46 31 368 75 05
3. State who is alerting and where/what is on fire. Fight the fire with the help of personnel and material available to you.
4. Make sure all fire-fighting vehicles are met and directed to the location of the fire.

Personal injury

1. Always call 112
2. Alert Skarviksporten (Skarvik Gate) +46 31 368 75 05
3. State the number of injured and the type of injuries as well as the exact location.
4. Make sure someone always stays with the injured person(s).

Make sure the ambulance is met and directed to the site of the accident!

Spills to ground/water

1. Alert Skarviksporten (Skarvik Gate)+46 31 368 75 05
2. State type of product
– Example: gasoline/petrol, diesel fuel, etc.
3. State the exact location of the spill, berth, vessel, depot, etc.

Traffic accident involving hazardous goods

1. Always call 112
2. Alert Skarviksporten (Skarvik Gate) +46 31 368 75 05
3. State the exact location of the accident.
4. State the class and UN number of the hazardous goods.
– Example: 33/1203 (Gasoline/petrol), 30/1202 (Diesel fuel)

Always follow the general principle – RACE
RESCUE • ACTIVATE ALARM • CONFINE • EXTINGUISH

This permit is valid from to

Location of hot work (+ coordinates):

Plant supervisor for flammable products: Telephone:

Personnel carrying out hot work (name and company): Telephone:

Person responsible for hot work: Telephone:

Work permit obtained from:

Description of hot work:

Permit terms and conditions:

- Spark arresting
- Sewage drains covered
- Own continual tests for combustible gas
- The hot work area has been checked and is declared free of combustible gas before hot work commences.
- The hot work area is guarded by security personnel
- No hot work when pumping/handling flammable products Class 1 or 2a within metre(s) of flanges, valves of similar
- No hot work on berth when a vessel is handling flammable goods Class 1 or 2a
- Adjacent depots informed before hot work commences
- Water from a fire hydrant is piped to the hot work area
- Dry powder extinguisher(s) of kg placed at the hot work area
- Flame detectors shut off
- Pipeline operator informed
- Permission from vessel and there should be an inspection of existing/last cargo/slop to ensure no flammable products Class 1 & 2a
- The hot work permit applies only in combination with a valid work permit.
 - Applicable safety regulations on the back of the form must be followed unless otherwise agreed.
 - The port office should be notified daily before commencement of hot work, by phone: +46 31 368 75 23 (daytime) or +46 31 368 75 25 (night-time and weekends).
 - In the case of accident, alarm, discharge or live exercise, all work must be suspended immediately.
 - When carrying out hot work after 16:00 (4 pm) the port office must be notified.
 - Any changes in the circumstances which formed the basis for issuing the original hot work permit, changes such as time, place etc., mean a new permit has to be issued.

I have read and understood the information above and the terms and conditions of this permit.

.....
Operator/Supervisor signature

.....
Supervisor for flammable products within the actual hot work area

.....
Issued by:

Date: 20 - -

Fire engineer telephone +46 31 368 75 23. Email: hetaarbeteneh@portgot.se

1. The officer responsible for flammable cargo is responsible for ensuring the hot work is carried out in accordance with current regulations. (That handling of flammable products is done in accordance with the current terms and conditions and restrictions for the hot work, and that relevant changes in activities are communicated to contractors concerned etc.).
2. The authorized signatory (the operator or supervisor) is responsible for ensuring that the work is carried out in accordance with the terms and conditions of the permit, including the reverse page, i.e. that the right equipment is in place and that the instructions in the permit are followed.
3. The person in charge of the hot work team is responsible for ensuring that those carrying out the hot work have the right skills, qualifications and equipment. This could be, for example, that the Hot Work Certificate has been obtained, in cases where that is the normal practice within the industry (e.g. heating work, welding, cutting and roofing) as well as that gas measurements are carried out by a person qualified to do so. The skills and qualifications required can vary depending on the workplace and the work to be done. When in doubt, the person issuing the permit and/or an officer responsible shall take part in the assessment.
4. Hot work is any work involving an open flame, spark formation and tools or equipment that generate heat and might produce an incendive spark or sufficient heat to ignite well-carburetted combustible gas. Examples of hot work in the Energy Port are work involving heat guns, welding equipment, cutting machines and battery-driven screwdrivers. Electrical equipment that is not in the Ex-classification category, mobile (cellular) phones, cameras, video equipment and battery-driven measuring equipment. Work with excavators, sky-lifts and similar. Automobile traffic within Ex-classification zones. Ex-classification pumps and ventilation fans. Pneumatic equipment does not usually require a hot work permit (provided there is no risk of mechanical sparks being produced during the work itself).
5. Before work is started:
 - a) All easily combustible material within 15 metres of the hot work area must be removed. If the weather is dry the ground must be watered. Oil spills on the ground must be cleaned up.
 - b) Manholes within 15 metres of the hot work area must be sealed.
 - c) For indoor work, fire compartments must be inspected and sealed, if necessary.
 - d) For work where there is a risk of accumulation of flammable gases, the ventilation must to be adjusted to eliminate this risk.
6. The workplace's fire-fighting equipment must be laid out and be ready for immediate use. All personnel should be able to handle it correctly.
7. Gas cylinders must be labelled with clearly visible signage in accordance with the current standards. Welding torches should be fitted with flashback arresters, check valves, fixed shut-off key and protective gloves. After completion of the work and at the end of the working day, the equipment must be stored in the designated place.
8. For work where construction may conduct heat to combustible material (roofing, welding on a girder in a wall etc.) regular checks must be made to ensure that there is no initial smouldering or risk of ignition. Inspections and checks should also be carried out at breaks or in completion of the work. Further checks/inspections should be carried out at least one hour after the hot work has been completed.
9. Certain parts of the oil harbour area may have been contaminated by previous spills. In the event of leakage in connection with excavation work, for example, the hot work must immediately be suspended until the leakage has been determined not to be dangerous from a fire and explosion perspective.
10. Electric cables and lock-off devices for welding equipment and lighting, etc. shall be whole and well-protected from mechanical damage. Electrical equipment that is connected should not be left unattended in the hot work area. The earth connection should be adjacent to the work site with the earth return cable led directly back to the welding machine.
11. Non-ATEX-classified mobile (cellular) phones are prohibited in certain zones.
12. Smoking is generally banned within the Energy Port area. Smoking is, however, allowed in specially designated areas.
13. For work where gas measurement is required, this must be documented in writing, either on this form or in other documentation. In any event the documentation must contain the following points:

Gas measurement:

Date: Time: Value: % LEL Inspector:

Date: Time: Value: % LEL Inspector:

Fire engineer telephone +46 31 368 75 23 Email: hetarbeteoh@portgot.se

Requirements for permission to carry out bunker operations when loading or offloading cargo with low flashpoint (below 30° C)

The following rules apply to vessels mooring at berths managed by the Gothenburg Port Authority. Low flashpoint means a flashpoint not exceeding 30° C.

Requirements for bunker barges

- Approved according to IEC 60092-502 by an independent inspector with documented experience of such type of inspections. The inspection should guarantee that the bunker barge is suitable for bunkering operations according to this document

Operational requirements for bunker operations

- The above requirements are fulfilled at any given time
- Confirmation from the port's safety coordinator that bunkering is allowed
- Confirmation from the Master of the vessel that bunkering is allowed, all mooring lines are tightened and that no lifeboat drills or other exercises are in progress
- Confirmation that cargo operations on the bunker barge are stopped on arrival and departure
- VRU on the bunker barge shall be connected and operational during loading operations
- Gas measuring device on the bunker barge is operational
- All non-Ex-classified equipment on deck and in the cabin area must be contained, shut off or removed
- Radar equipment must be switched off
- No mechanical tools or equipment capable of generating sparks may be used
- Fire extinguisher must be placed near the manifold
- The ship's procedures for bunkering at low flashpoint are followed
- Fire-fighting equipment is fully operational
-



**PORT OF
GOTHENBURG**

The Port of Scandinavia

Port of Gothenburg, SE-403 38 Gothenburg. Phone +46 31 368 75 00. www.portofgothenburg.com