

SAUDI ARABIAN OIL COMPANY (Saudi Aramco) GENERAL INSTRUCTION MANUAL ISSUING ORG. LOSS PREVENTION DEPARTMENT SUBJECT: WORK PERMIT SYSTEM	G.I.NUMBER Approved 2.100	
	ISSUE DATE 04/21/2009	REPLACES 09/01/2006
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1.0 INTENT

- 1.1 This General Instruction (GI) establishes minimum guidelines and responsibilities for the issuing/receiving of work permits, and for certifying those responsible for implementing the system. Individual departments may develop additional practices or procedures to cover their own specific requirements. When issued, permits serve as official records of conditions and requirements agreed upon by the issuer and receiver. They list minimum safety precautions to be taken and hazards which must be controlled. See supplement 2.100-1 - Forms 924-1, 924-2, 924-3 and 924-4.

2.0 DEFINITIONS

- 2.1 Restricted areas - Those areas or activities which have been designated by department managers as requiring the work permit procedure. These include all areas where hydrocarbons, flammable liquids or gases, or toxic agents are handled, stored, piped or processed in bulk quantities. The following areas are examples of "restricted areas": petroleum processing plants, pump stations, bulk plants, tank farms, air fueling operations, loading piers, hydrocarbon containing pipelines and pipeline corridors, oil and gas wells, gas plants, water and gas injection wells and pipelines, water or sewage treatment plants, marine vessels, gasoline service stations, areas where explosives or radioactive materials are used or stored and areas within 15 m (50 ft) of power lines.
- 2.2 Work permit issuers - Supervisors who are certified by their division or department heads to issue work permits for restricted areas under their supervision (also referred to as issuers).
- 2.3 Designated representatives - Employees designated by the issuer, who must be experienced, competent and familiar with the requirements of GI 2.100 and the work permit system and be able to perform the duties associated with issuing work permits. Designated representatives cannot sign work permits.

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- 2.4 Work permit receivers - Craft supervisors, craftsmen, or other company employees who have been certified by their division or department heads, and contractor employees sponsored by organization heads to sign and receive work permits (also referred to as receivers).

3.0 FUNCTION OF WORK PERMIT SYSTEM

- 3.1 The work permit system authorizes specific construction, maintenance, inspection, or repair to be conducted in the company's restricted areas. The system is intended to be applied to those jobs which represent a potential hazard to company operations, facilities, personnel, or equipment. Low risk jobs, as determined by the operating organization, may be exempted from the work permit system. Low risk jobs are those which management determines can be conducted safely without work permits and may include carpentry, inspections in non-hazardous areas, cleaning or lubricating of non-hydrocarbon equipment, and certain classes of non-flash photography. In such cases, the operating organization must maintain adequate control and account for personnel in the restricted area.

- 3.2 Work permit forms 924-1, 924-2, 924-3 and 924-4 must be issued, as appropriate for specific work on a specific site. These work permit forms are for all types of work in restricted areas. Work permits must be issued for any of the work or combination of the work identified below:

- 3.2.1 Release of hazardous liquids or gases is any work that has the potential for actual or possible release of flammable, combustible, toxic and injurious materials, in levels that can pose a hazard to personnel, property or the environment. Use Saudi Aramco form 924-1 (YELLOW). A release permit is not intended to authorize a release but to ensure that if there is a potential for release, all appropriate precautions are taken.

Example: Opening a hydrocarbon or steam line to drain a vessel (Note: in most cases a cold work permit is also required).

- ★ 3.2.2 Hot work is any work that develops sparks, flames, or heat sufficient to cause ignition. This work permit will apply to the use of spark or flame producing tools and equipment, including the use of internal combustion engines in restricted areas. This work permit is also required for open flames, welding or torch cutting within 30 m (100 ft.) of a pipeline or facility containing hydrocarbons in non-restricted areas. Use Saudi Aramco form 924-2 (RED - white form with red text and border).

- ★ Examples: Work on or in close proximity to live electrical apparatus or use of unapproved electrical devices (e.g. computers, boroscopes and cellular phones) in a classified area, when a vehicle enters a plant, welding, torch use, grinding, blasting, etc.

- 3.2.3 Cold work is work that will not produce sufficient energy to ignite flammable atmospheres/materials. Use Saudi Aramco form 924-3 (BLUE).

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Examples: Work with hand tools, sand removal, asbestos removal or repair, scaffold erection, brush painting, etc.

- 3.2.4 Confined space entry is the entry of personnel into any space or structure (i.e., tank, vessel, vault, excavations when 1.2 m (4 ft) or deeper, etc.) not normally intended for human occupancy, where entry, movement within, or exit is restricted. Use Saudi Aramco form 924-4 (GREEN).

Examples: Tank cleaning, tank inspection, or work in sewers or trenches 1.2 m (4 ft) or deeper.

(Note: In most cases a hot or cold work permit is also required.)

- 3.3 Work may also be subject to requirements or regulations as stated in the General Instruction Manual, Refinery Instruction Manual, Operations Instruction Manual, Terminal Instruction Manual, Gas Plant Instructions, or other facility operations manuals.

4.0 ISSUANCE AND APPROVAL OF WORK PERMIT FORMS 924-1, 924-2, 924-3 AND 924-4

- 4.1 The issuer and receiver are jointly responsible for the safety of personnel and equipment in the area. The issuer is responsible for specifying precautions so that the work can be done without injury or loss. The receiver is responsible for performing the work in accordance with the conditions and requirements agreed upon with the issuer and specified in the work permit.
- 4.2 Before issuing the work permit all necessary actions to approve the proposed work and/or possible configuration changes must be completed. The issuer must verify that the receiver's certificate is valid and approved for the type of work to be done: (i.e., hot work, confined space entry, cold work, release of hazardous liquids or gases, or a combination of these).
- 4.3 The receiver requests the work permits from the operations supervisor of the facility (i.e., the issuer); and can complete the initiation part of the work permit form. The initiation part of the work permit includes the information section from the top of the form, to the section titled "Equipment used at the site". The receiver must participate in any joint site inspection that is conducted.
- 4.4 The issuer will issue the work permit after he (or his designated representative) has conducted a joint site inspection with the receiver as appropriate, performed the necessary gas tests, listed applicable precautions and restrictions, and reviewed all aspects of the job with the receiver (see paragraph 4.2 for guidance). The issuer's and receiver's signatures plus any other approvals and signatures must be on the completed form. These additional approvals or signatures are required for extended permits (see paragraph 4.6) or for some specific jobs, the superintendent must countersign the permits (refer to permit forms for details).

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4.4.1 The issuer must obtain the approval and counter signature of any other operations supervisors (i.e., issuers) whose operations will be affected, before issuing a permit.

4.4.2 For some jobs, the issuer (or his designated representative) may determine that a joint site inspection is not required for jobs with extremely low risk. Examples include: cold work in a safe area, carpentry, lubricating, cleaning, brush painting, non-flash photography, instrument checking in a control room, and a vehicle entering a non-hazardous area.

When there is any doubt about whether a hazard exists, a joint site inspection must be conducted.

When the issuer determines a joint site inspection is not required, he must specify the reasons in the appropriate space on the permit.

★★ 4.4.3 Board operators in the control room shall maintain a log of all active hot work permits and release of hazardous materials permits issued for their plants.

4.4.4 During an emergency the issuer can authorize work without work permits. The work activity, however, cannot violate any Saudi Aramco minimum safety standards. The issuer should issue work permits as soon as possible.

★ 4.5 Renewal of the work permit is permissible for two consecutive operating shifts. The renewal requires the signatures of both the issuer and the receiver coming on shift. Normally, the period covered by one work permit shall not exceed 24 consecutive hours. Refer to paragraph 4.6 below for exceptions to this rule.

4.5.1 Signing the work permit indicates complete agreement with the conditions stated on the form and transfers the responsibility to those coming on shift.

4.5.2 The work permit is for specific work on a specific site. It cannot be transferred except to the following shift. Transfer from one craft to a different craft is not permitted.

★ 4.6 Extended work permits may be issued for periods over 2 shifts but not in excess of 30 days. This lengthy extension applies to extended construction or maintenance work where the job requirements remain essentially unchanged. The permit must be approved by the division head or above of the issuing department and the following conditions must be satisfied:

4.6.1 It must be highly unlikely that conditions will develop which would create an additional hazard to personnel or operating facilities.

4.6.2 Precautions must be taken prior to starting the job, to ensure safe conditions throughout the job.

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4.6.3 Both the operations division head and the maintenance/construction division head must be in agreement as to job conditions and risks involved and both must sign the work permit.

- ★ 4.7 The receiver of a work permit must keep a copy in his possession or in view at the job site for the duration of the job so that it is available for inspection and cancellation if necessary. The receiver is expected to remain at the job site to adequately supervise the work, however, if he must leave the job site for any reason, for example to obtain additional tools or equipment, etc., he must, if the issuer concurs, relinquish supervisory control to another certified receiver, until he returns. The alternate receiver's name and badge number must be written on the permit by the issuer.

5.0 RIGHT TO STOP WORK AND CANCEL PERMITS

- 5.1 The issuer may stop a job and withdraw a work permit if he determines that safety of the job does not meet the conditions specified on the work permit.
- 5.1.1 When work is stopped the issuer must pick up the work permit, write on the permit the reasons for the work cancellation, the time, and other relevant information.
- 5.1.2 When conditions are safe again the issuer may issue a new work permit.
- 5.2 The receiver has the responsibility to stop work and advise the issuer of his action any time he determines that the conditions of the job do not meet the conditions on the work permit. He and the issuer shall take action to correct deficiencies and resume the job.
- 5.3 All unnecessary personnel whose presence adversely affects the safety of the job must be kept away from the job site or work shall be stopped.
- 5.4 All work permits are cancelled in the event of an emergency, such as a fire or toxic release. Permits may be re-issued once the "all clear" has been declared and the work sites have been returned to their pre-emergency conditions.
- 5.5 If an unsafe condition develops when neither the issuer nor the receiver is available at the work site, the issuer's designated representative or the receiver's delegate has the authority to stop the job.

6.0 CLOSING WORK PERMITS

- 6.1 Work permits shall be closed by both the issuer and the receiver signing the permit. When distance and remoteness make signing impractical, an alternative closing method is determined and stated on the work permit when it is issued. Both the issuer (or his designated representative) and receiver shall conduct a site inspection to ensure that the work area has been returned to its pre-work permit condition before the work permit can be closed. If the work has not been

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completed, the work site shall be left in a safe and secure condition.

7.0 FILING WORK PERMITS

- 7.1 The issuer shall keep the original copy of the work permit or permits for a minimum of three (3) months.

8.0 CERTIFICATION OF ISSUERS AND RECEIVERS OF WORK PERMITS

- ★ 8.1 Work permit courses are conducted by the Training & Career Development. The purpose of the courses is to acquaint potential issuers/receivers/gas testers with the work permit system, to administer written tests and to issue work permit certificates to successful candidates.
- 8.2 Issuer candidates are required to successfully complete both the Gas Tester and Hazard Recognition courses as pre-requisites before being allowed to take the issuer's certification exam. Both of these courses must be completed every two years.
- ★ 8.3 Work permit certificates will be issued by Training & Career Development to the employee's management indicating that they have successfully completed the certification exam for issuers, receivers, and/or gas testers as appropriate. Only when the certificate is signed by the employee's own division head, or in case of a contractor by his proponent organization division head, does the candidate become a certified issuer or receiver. Non-Saudi Aramco contractors will be certified by the Projects Review & Coordination Division, Saudi Aramco Affairs Services Department - refer to G.I. 887.000.
- 8.4 The signing of a certificate provides a written record of the division head's and/or manager's acceptance that an issuer or receiver has sufficient knowledge and/or skills to perform assigned functions in restricted areas. This acceptance also indicates that an issuer or receiver understands the contents of this General Instruction.
- 8.5 Any person issuing or receiving a work permit must have in his possession a valid issuer's or receiver's work permit certificate, as appropriate, at the time of issuing or receiving permits.
- 8.6 All organizations must maintain records of their work permit issuer/receiver certified personnel. Certificates expire two years after the date of issue. Accordingly, the issuers and receivers must be recertified every two years. Certificates cannot be extended, and will not be reissued when an employee transfers to another organization if there is less than 6 months remaining on the term of the certificate. If less than 6 months remains on the validity of the certificate, the issuer, receiver or gas tester must be recertified. If more than 6 months remains, the reissued certificates will have the same expiration as the original. Valid certificates can be reissued upon written request from the proponent organization's division head, with a copy of the original certificate attached.

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9.0 PERIODIC REVIEWS

- 9.1 All organizations are required to review their own operations to ensure compliance with this General Instruction. In addition, Loss Prevention will conduct periodic reviews of the work permit system.

Recommended: _____ Date: _____
 MANAGER, LOSS PREVENTION DEPT.

Approved: _____ Date: _____
 PRESIDENT & CEO

SUPPLEMENT 2.100-1

REFER TO SA FORM 924-1 (RELEASE OF HAZARDOUS LIQUIDS OR GASES)
 SA FORM 924-2 (HOT WORK)
 SA FORM 924-3 (COLD WORK)
 SA FORM 924-4 (CONFINED SPACE ENTRY)

SUPPLEMENT 2.100-2

REFER TO (CERTIFICATE TO RECEIVE WORK PERMITS)

SUPPLEMENT 2.100-3

REFER TO (CERTIFICATE TO ISSUE WORK PERMITS)