Permit-to-work systems

HSE
Health & Safety Executive
Chemical and Hazardous
Installations Division

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WHAT ARE PERMITS-TO-WORK?

A permit-to-work system is a formal written system used to control certain types of work that are potentially hazardous. A permit-to-work is a document which specifies the work to be done and the precautions to be taken. Permits-to-work form an essential part of safe systems of work for many maintenance activities. They allow work to start only after safe procedures have been defined and they provide a clear record that all foreseeable hazards have been considered.

A permit is needed when maintenance work can only be carried out if normal safeguards are dropped or when new hazards are introduced by the work. Examples are, entry into vessels, hot work and pipeline breaking.

WHAT IS THE PROBLEM?

An HSE survey showed that a third of all accidents in the chemical industry were maintenance-related, the largest single cause being a lack of, or deficiency in, permit-to-work systems.

In a study of small and medium-sized chemical factories:

- ❒ two-thirds of companies were not checking systems adequately;
- ❒ two-thirds of permits did not adequately identify potential hazards;
- ❒ nearly half dealt poorly with isolation of plant, electrical equipment, etc;
- ❒ a third of permits were unclear on what personal protective clothing was needed;
- ❒ a quarter of permits did not deal adequately with formal hand-back of plant once maintenance work had finished;
- ❒ in many cases little thought had been given to permit form design.

While aimed primarily at the chemical industry the guidance provided may have application in other industries.

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WHAT DO I NEED TO DO?

Don't assume that your system is a good one just because you have not yet had a serious accident. You should critically review your system and ask yourself the following questions.

Information

- ❒ Is the permit-to-work system fully documented, laying down:
  - how the system works;
  - the jobs it is to be used for;
  - the responsibilities and training of those involved; and
  - how to check its operation?
- ❒ Is there clear identification of who may authorise particular jobs (and any limits to their authority)?
- ❒ Is there clear identification of who is responsible for specifying the necessary precautions (eg isolation, emergency arrangements, etc)?
- ❒ Is the permit form clearly laid out?
- ❒ Does it avoid statements or questions which could be ambiguous or misleading?
- ❒ Is it designed to allow for use in unusual circumstances?
- ❒ Does it cover contractors?

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Selection and training

- ❒ Are those who issue permits sufficiently knowledgeable concerning the hazards and precautions associated with the plant and proposed work? Do they have the imagination and experience to ask enough 'what if' questions to enable them to identify all potential hazards?

- ❒ Do staff and contractors fully understand the importance of the permit-to-work system and are they trained in its use?

Description of the work

- ❒ Does the permit clearly identify the work to be done and the associated hazards?

- ❒ Can plans and diagrams be used to assist in the description of the work to be done, its location and limitations?

- ❒ Is the plant adequately identified, eg by discrete number or tag to assist issuers and users in correctly taking out and following permits?

- ❒ Is a detailed work method statement given for more complicated tasks?

Hazards and precautions

- ❒ Does the system require the removal of hazards and, where this is not reasonably practicable, effective control? Are the requirements of The Control of Substances Hazardous to Health Regulations 1999 (COSHH) and other relevant legislation known and followed by those who issue the permits?

- ❒ Does the permit state the precautions that have been taken and those that are needed while work is in progress? For instance, are isolations specified and is it clear what personal protective equipment should be used?

- ❒ Do the precautions cover residual hazards and those that might be introduced by the work, eg welding fume and vapour from cleaning solvents?

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- ❒ Do the Confined Spaces Regulations 1997 apply? If so, has a full risk assessment identified the significant risks and identified alternative methods of working or necessary precautions?

Procedures

- ❒ Does the permit contain clear rules about how the job should be controlled or abandoned in the case of an emergency?
- ❒ Does the permit have a hand-back procedure incorporating statements that the maintenance work has finished and that the plant has been returned to production staff in a safe state?
- ❒ Are time limitations included and is shift changeover dealt with?
- ❒ Are there clear procedures to be followed if work has to be suspended for any reason?
- ❒ Is there a system of cross-referencing when two or more jobs subject to permits may affect each other?
- ❒ Is the permit displayed at the job?
- ❒ Are jobs checked regularly to make sure that the relevant permit-to-work system is still relevant and working properly?

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ESSENTIALS OF THE PERMIT-TO-WORK FORM

The permit-to-work form must help communication between everyone involved. It should be designed by the company issuing the permit, taking into account individual site conditions and requirements. Separate permit forms may be required for different tasks, such as hot work and entry into confined spaces, so that sufficient emphasis can be given to the particular hazards present and precautions required.

The essential elements of a permit-to-work form are listed in the diagram. If your permit does not cover these it is unlikely to be fully achieving its purpose.

1 Permit title

3 Job location

4 Plant identification

6 Hazard identification - including residual hazards and hazards introduced by the work

7 Precautions necessary - person(s) who carries out precautions, eg isolations, should sign that precautions have been taken

8 Protective equipment

9 Authorisation - signature confirming that isolations have been made and precautions taken, except where these can only be taken during the work. Date and time duration of permit

11 Extension/shift handover procedures - signatures confirming checks made that plant remains safe to be worked upon, and new acceptor/workers made fully aware of hazards/precautions. New time expiry given

PERMITS SAVE LIVES - GIVE THEM PROPER ATTENTION

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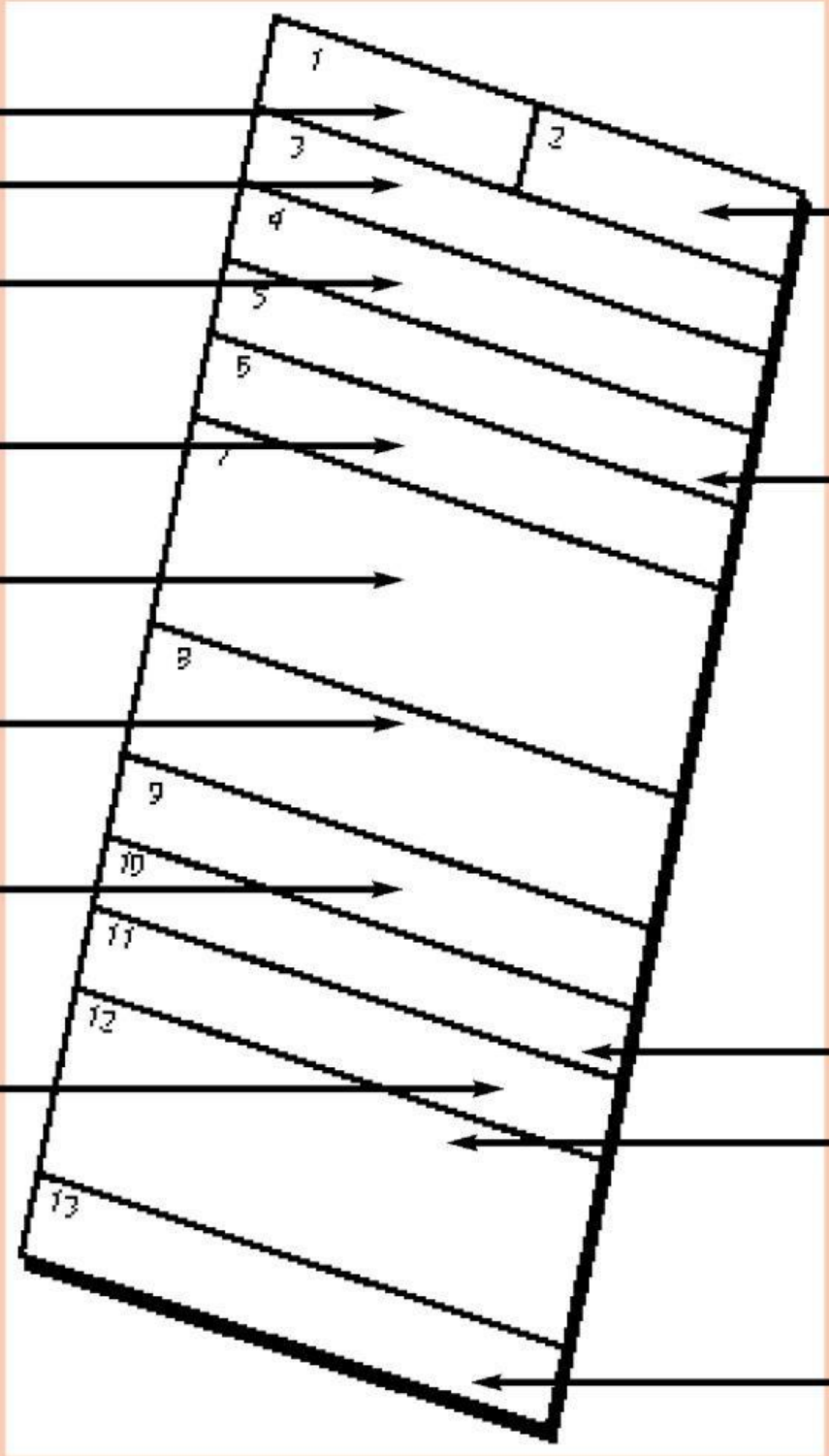

2 Permit number. Reference to other relevant permits or isolation certificates

5 Description of work to be done and its limitations.

10 Acceptance - signature confirming understanding of work to be done, hazards involved and precautions required. Also confirming permit information has been explained to all workers involved

12 Hand back - signed by acceptor certifying work completed. Signed by issuer certifying work completed and plant ready for testing and recommissioning.

13 Cancellation - certifying work tested and plant satisfactorily recommissioned

(Signatures - names must be legible)

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FURTHER INFORMATION

This leaflet, prepared by HSE's Chemical and Hazardous Installations Division, is a pointer to essential features of a permit-to-work system. You are also strongly advised to read:

Guidance on permit-to-work systems in the petroleum industry HSE Books 1997 ISBN 0 7176 1281 3

The safe isolation of plant and equipment HSE Books 1997 ISBN 0 7176 0871 9

Safe work in confined spaces Free HSE leaflet INDG258 HSE Books 1999. Also available in priced packs ISBN 0 7176 1442 5

Safe work in confined spaces: Approved code of practice, regulations and guidance L101 HSE Books 1997 ISBN 0 7176 1405 0

Cleaning and gas freeing of tanks containing flammable residues CS15 HSE Books 1985 ISBN 0 7176 1365 8

COSHH: a brief guide to the Regulations INDG136 HSE Books 1999 ISBN 0 7176 2444 7

Other guidance for the chemical industry:

Formula for health and safety HSG166 HSE Books 1997 ISBN 0 7176 0996 0

Managing contractors: A guide for employers HSE Books 1997 ISBN 0 7176 1196 5

This leaflet is available in priced packs of 15 from HSE Books, ISBN 0 7176 1331 3. Single, free copies are available from HSE Books.

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This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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