

1.1 PURPOSE

- 1.1.1 The purpose of this policy is to give TERRY R PITT CONSTRUCTION employees an understanding of how the permit to work (PTW) system works.

1.2 PERMIT TO WORK SYSTEM

- 1.2.1 A PTW system is a formal written system used to control certain types of work that are identified as potentially hazardous.
- 1.2.2 It is also a means of communication between site/installation management, plant supervisors and operators, and those who carry out the work.
- 1.2.3 Essential features of a PTW system are:
 - 1.2.3.1 Clear identification of who may authorize particular jobs (and any limits to their authority) and who is responsible for specifying the necessary precautions
 - 1.2.3.2 Training and instruction in the issue and use of permits
 - 1.2.3.3 Monitoring and auditing to ensure that the system works as intended
- 1.2.4 TERRY R PITT CONSTRUCTION's PTW system aims to ensure that proper planning and consideration is given to the risks of a particular job. The permit is a written document which authorizes certain people to carry out specific work, at a certain time and place, and which sets out the main precautions needed to complete the job safely.
- 1.2.5 TERRY R PITT CONSTRUCTION will conduct a risk assessment to identify and assess hazards and implement proper controls for the hazards identified.

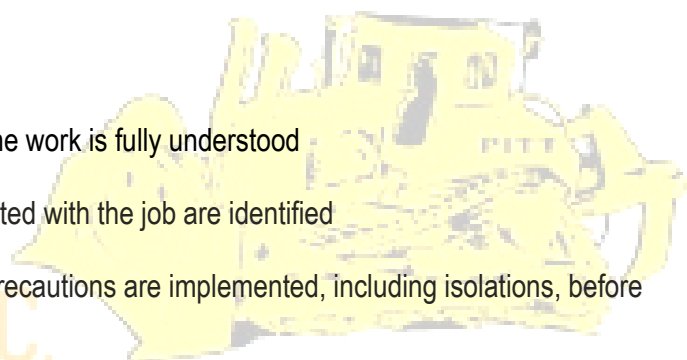
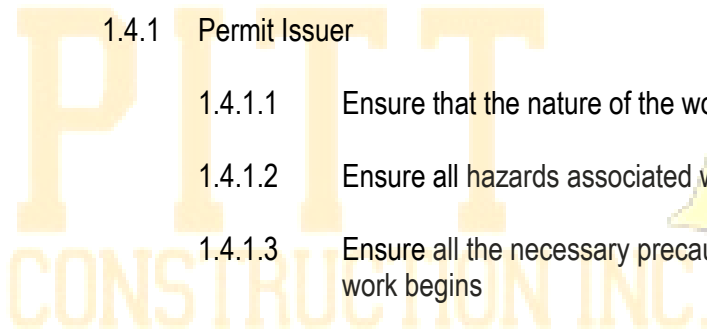
1.3 OBJECTIVES

- 1.3.1 Ensure the proper authorization of designated work. This may be work of certain types, or work of any type within certain designated areas, other than normal operations
- 1.3.2 Make clear to people carrying out the work the exact identity, nature, and extent of the job and the hazards involved, and any limitations on the extent of the work and the time during which the job may be carried out
- 1.3.3 Specify the precautions to be taken, including safe isolation from potential risks such as hazardous substances and energy sources
- 1.3.4 Ensure that the person in charge of a unit, plant, or installation is aware of all the work being done there.

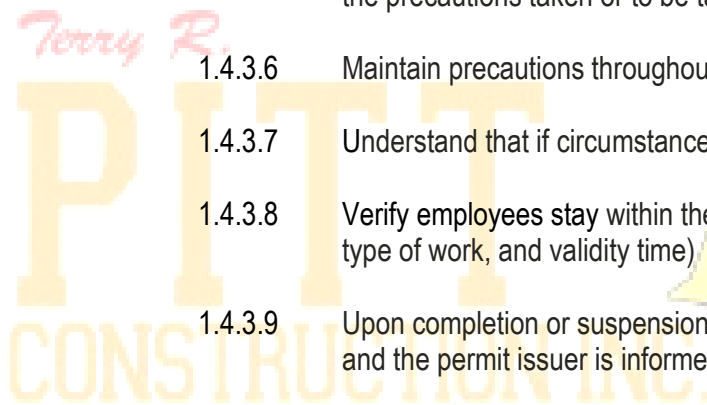
- 1.3.5 Provide not only a system of continuous control but also a record showing that the nature of the work and the precautions needed have been checked by an appropriate person or people.
- 1.3.6 Provide for the suitable display of permits.
- 1.3.7 Provide a procedure for times when work has to be suspended (ex. stopped for a period before it is complete)
- 1.3.8 Provide for the procedures or arrangements for work activities that may interact with or affect any of these activities.
- 1.3.9 Provide a formal handover procedure for use when a permit is issued for a period longer than one shift or when permit signatories change.
- 1.3.10 Provide a formal procedure to ensure that any part of the plant affected by the work is in a safe condition and ready for reinstatement.

1.4 RESPONSIBILITIES

- 1.4.1 Permit Issuer
 - 1.4.1.1 Ensure that the nature of the work is fully understood
 - 1.4.1.2 Ensure all hazards associated with the job are identified
 - 1.4.1.3 Ensure all the necessary precautions are implemented, including isolations, before work begins
 - 1.4.1.4 Ensure all people who may be affected by the work are informed before the work begins, when the work is suspended, and when the work is complete
 - 1.4.1.5 Ensure permits for tasks that may interact are cross-referenced
 - 1.4.1.6 Ensure that effective arrangements are made for the work site to be examined before work begins, on completion of work, and as appropriate when work is suspended
 - 1.4.1.7 Ensure sufficient time is spent on shift handover to discuss all ongoing or suspended permits with the oncoming permit issuer
- 1.4.2 Management Personnel (Permit Holder)
 - 1.4.2.1 Informed of and understand the broad principles of the PTW system for the locations where their employees are to work



- 1.4.2.2 Give appropriate training and understand the operation of the PTW system and their specific responsibilities within it
- 1.4.2.3 Monitor the training of their employees
- 1.4.3 Supervisors (or persons in charge of work, Permit Requestor)
 - 1.4.3.1 Receive training in the PTW system as applied in that particular location
 - 1.4.3.2 Ensure employees have received adequate instruction in the system
 - 1.4.3.3 Discuss the job fully with the person issuing the permit
 - 1.4.3.4 Verify the permit is posted at the jobsite
 - 1.4.3.5 Brief employees on the details of the permit including any potential hazards and on all the precautions taken or to be taken
 - 1.4.3.6 Maintain precautions throughout the work activity
 - 1.4.3.7 Understand that if circumstances change, work must be stopped and advice sought
 - 1.4.3.8 Verify employees stay within the limitations set on the permit (physical boundaries, type of work, and validity time)
 - 1.4.3.9 Upon completion or suspension of the work, ensure the site is left in a safe condition and the permit issuer is informed.
- 1.4.4 Employees
 - 1.4.4.1 Receive instruction and have a good understanding of the PTW system at the installation where they work
 - 1.4.4.2 Do not start any work requiring a permit until a permit has been properly authorized and issued
 - 1.4.4.3 Receive a briefing from the supervisor on the particular task and understand the hazards and the precautions taken or to be taken
 - 1.4.4.4 Follow the instructions specified in the permit
 - 1.4.4.5 Leave the site and any equipment in a safe condition when work is complete
 - 1.4.4.6 If in any doubt or if circumstances change, stop work and consult with supervisor



1.5 PERMIT TO WORK FORMS

- 1.5.1 The core of the PTW system is the form itself.
- 1.5.2 The types of work for which PTW systems are normally applied include maintenance and repair, inspection, testing, construction, dismantling, modification, and cleaning. A permit to work shall be issued for all non-routine tasks and tasks that the company considers to be high risk. When a permit to work is required, the permit will be issued and executed prior to work commencing.
- 1.5.3 TERRY R PITT CONSTRUCTION will conduct a thorough review of any active work permits before the beginning of each shift.
- 1.5.4 The type of jobs requiring the control of a PTW system may include:
 - 1.5.4.1 Hot work of any type where heat is used and generated (ex. by welding, flame cutting, grinding, grit/sandblasting, etc.)
 - 1.5.4.2 Work which may generate sparks or other sources of ignition
 - 1.5.4.3 Work which may cause an unintended or uncontrolled hydrocarbon release, including any disconnection or opening of any closed pipeline, vessel, or equipment containing, or which has contained, flammable or toxic materials
 - 1.5.4.4 Electrical work
 - 1.5.4.5 Work at any place on an offshore installation from which any person could fall into the sea
 - 1.5.4.6 Work involving the use of dangerous substances, including radioactive materials and explosives
 - 1.5.4.7 Excavations
 - 1.5.4.8 Diving activities
 - 1.5.4.9 Pressure testing
 - 1.5.4.10 Danger of dropped objects
 - 1.5.4.11 Maintenance operations that compromise critical safety systems or that remove them from service (ex. fire and gas detection systems, public address systems, lifesaving equipment, and firefighting equipment)
- 1.5.5 In considering the content of the form, the following list is typical of the information required:

- 1.5.5.1 Description of task to be done
- 1.5.5.2 Description of exact location
- 1.5.5.3 Details of work party and tools to be used
- 1.5.5.4 Details of potential hazards
- 1.5.5.5 Details of precautions taken
- 1.5.5.6 Details of protective equipment to be used or worn
- 1.5.5.7 Other persons to be notified/approved
- 1.5.5.8 Time of issue and period of validity
- 1.5.5.9 Signature of person in charge of the work
- 1.5.5.10 Signature of person issuing the permit
- 1.5.5.11 Signature for handover of responsibilities between shifts
- 1.5.5.12 Declaration by person in charge of work that work is complete or incomplete and site has been left in a safe condition
- 1.5.5.13 Signature of person issuing the permit which confirms that the site has been checked and that equipment may be reinstated or left safely isolated and that the permit is canceled

1.6 DOCUMENTATION

- 1.6.1 The PTW system will include critical procedures and it is therefore important that the documentation associated with the PTW system be given a suitable level of importance.
- 1.6.2 The PTW system documentation should:
 - 1.6.2.1 Be controlled
 - 1.6.2.2 Have a specific owner
 - 1.6.2.3 Be accessible
 - 1.6.2.4 Be periodically reviewed and amended, if required
 - 1.6.2.5 Be a standard to be audited against

1.7 COMMUNICATION

- 1.7.1 The importance of effective communication within the PTW system cannot be overstated. Due to the number of people who may be involved in the PTW system and the potentially large number of interfaces, this is one of the most important areas of a PTW system.
- 1.7.2 Special attention should be paid to the possibility of communication problems on sites where more than one language is spoken.
- 1.7.3 Areas of specific emphasis include:
 - 1.7.3.1 Person requesting the work to state clearly the exact nature and scope of the work, the number of workers, different trades, and special tools involved.
 - 1.7.3.2 Person issuing the permit to communicate clearly the potential hazards at the worksite, the precautions taken, and the precautions to be taken by the person in charge of the work. It will be ensured that any other person who may be affected by the work is informed.
 - 1.7.3.3 Person in charge of the work to communicate clearly to the members of his work party the information received on hazards and precautions and the action required in the event of an emergency. The person in charge should tell the person issuing the permit if there are changes in the work conditions that may affect the validity of the permit.

1.8 VERIFICATION AND MONITORING

- 1.8.1 The extent and frequency of verification and monitoring will be determined by the size of the location/installation, the number of permits in normal use, and the extent of discrepancies found on previous checks.
- 1.8.2 Daily monitoring by the installation manager, safety personnel, supervisors, and/or permit issuer should address the following:
 - 1.8.2.1 Is the permit properly displayed at the worksite?
 - 1.8.2.2 Has it been properly completed?
 - 1.8.2.3 Is specified safety equipment in place?
 - 1.8.2.4 Are specified precautions adequate and being implemented?
 - 1.8.2.5 Has the work party been briefed and are the conditions of the permit and the full extent and nature of the work to be performed understood?

- 1.8.3 More in depth regular inspections should be carried out possibly using a prepared checklist. It should cover all aspects of the PTW system including isolations, adequacy of briefings, shift handover arrangements, and training. This inspection should be carried out by senior personnel independent of the area being checked.
- 1.8.4 Auditing should take place on an annual basis, by persons independent of the location being audited. The PTW system is usually included as part of an overall safety audit.
- 1.8.5 A periodic review of TERRY R PITT CONSTRUCTION's PTW system should take place to consider the results of previous audits, incident reports, legislation, and organization changes.

1.9 VALIDITY OF PERMITS

- 1.9.1 In order that effective control is maintained in changing circumstances, there should be a limit on the life of a permit. Depending on the task, the overall life of a permit could be up to 7 days, although it will be necessary to regularly revalidate the permit during this period. Some companies prefer to cancel the permit at the end of each shift and issue a new one if work is continuing beyond one shift.
- 1.9.2 A new permit will be issued if the scope of work changes. If new, previously unaddressed hazards are identified, then the work permit will be suspended and reviewed.

1.10 ISOLATION

- 1.10.1 An essential ingredient of any safe system of work is the method and integrity of the isolation procedure.
- 1.10.2 The isolation principle to be adopted, prior to carrying out maintenance or repair, will be determined by a number of factors (ex. potential for pressure, dangerous substances, lack of oxygen, moving machinery, etc.). It is beyond the scope of this document to provide guidance on the isolation required for each potential hazard. Each company should develop its own isolation procedures to be adopted depending on work activity and risks involved.
- 1.10.3 The following additional points should be considered within the isolation procedures:
 - 1.10.3.1 Complex isolations should be planned and recorded on a working drawing. This should be discussed between the person issuing the permit and the person in charge of the work to ensure all isolation points are clearly understood and agreed upon. The marked-up drawing should be readily available to all concerned. Consideration should be given to attaching a copy to the permit.
 - 1.10.3.2 It is essential that the isolation standard is commensurate with the type of work being carried out, plant operating conditions, and other local influences.

- 1.10.3.3 Isolation procedures should include all energy sources (ex. mechanical, electrical, hydraulic pressure).
- 1.10.3.4 The tag or key number should be recorded on the permit form or on a separate form that should in turn be cross-referenced and attached to the PTW form.
- 1.10.3.5 Isolation should only be applied and removed on instruction from the person issuing the permit.
- 1.10.3.6 If more than one task is to be carried out on part of a plant or piece of equipment, there is a risk that on completion of one of the tasks, the isolations are removed and the equipment is put back into service. Controls should be in place to prevent premature de-isolation where dual tasks are involved.
- 1.10.3.7 If the work cannot be completed within the shift, the site should be checked by both the person in charge of the work and the permit issuer to ensure it is left in a safe condition and equipment cannot be reinstated until all work is properly completed.
- 1.10.3.8 If the permit is suspended, the status of the worksite should be left on display in a suitable location (ex. control room and the isolation padlock keys kept in a secure place to ensure no unauthorized access).
- 1.10.4 All persons authorized to carry out isolations should be assessed for their competence prior to appointment. Authorized personnel should:
 - 1.10.4.1 Be suitably qualified
 - 1.10.4.2 Have experience on the plant/equipment
 - 1.10.4.3 Have received specific instructions on the plant, methods of isolation, etc.
 - 1.10.4.4 Be able to demonstrate their knowledge by examination. Their areas of responsibility should be made quite clear.

1.11 GAS TESTING

- 1.11.1 PTW preparation may involve a consideration of the likely presence of flammable or toxic gases or oxygen deficiency/enrichment at the worksite.
- 1.11.2 Where such a consideration is necessary, gas testing should be undertaken.
- 1.11.3 Persons involved in gas testing should be adequately trained in the use of gas testing equipment and in the interpretation of results.

1.11.4 The responsibility of what to test for, where to take samples, and the minimum number of samples to take should lie with the permit issuer. Gas testing should be done as close to the commencement of work as possible.

1.11.5 Results of any gas testing should be recorded, timed, and entered on the permit - if levels change during the work, the permit should be suspended.

1.12 SIGNATURES

1.12.1 Before any work subject to a permit is allowed to commence, certain signatures will be required.

1.12.2 The number and designation of the signatures will be determined by the type of permit and the nature of the work to be undertaken. This should be specified within the PTW system.

1.12.3 As a minimum, the permit issuer and the person in charge of the work should sign the permit. Other personnel involved in the permit preparation (ex. gas tester) should also sign the permit.

1.12.4 Personnel who need to be aware of the permit, or of aspects of the particular task, may also be required to sign.

1.12.5 Where a transfer of responsibilities takes place (ex. a new supervisor assumes responsibility for the permit or for the work), provisions should be made for this person to sign the valid permit.

1.12.6 No one should authorize/issue a work permit for work they will carry out themselves.

1.13 DISPLAY OF PERMITS

1.13.1 It is important that permits are displayed so the persons who need to be aware of them, or to refer to them, are able to do so.

1.13.2 Copies should normally be distributed/displayed as follows:

1.13.2.1 At the worksite

1.13.2.1.1 Where this is not practicable (ex. at an exposed location), the person in charge of the job should retain the copy on his person, having ensured that the work party members are familiar with its content.

1.13.2.2 At the main control/coordination room, where they should be displayed in a systematic arrangement

1.13.2.3 Where the permit issuer is remote from the main control/coordination center, he should have a copy of the permit.

1.14 REVALIDATION

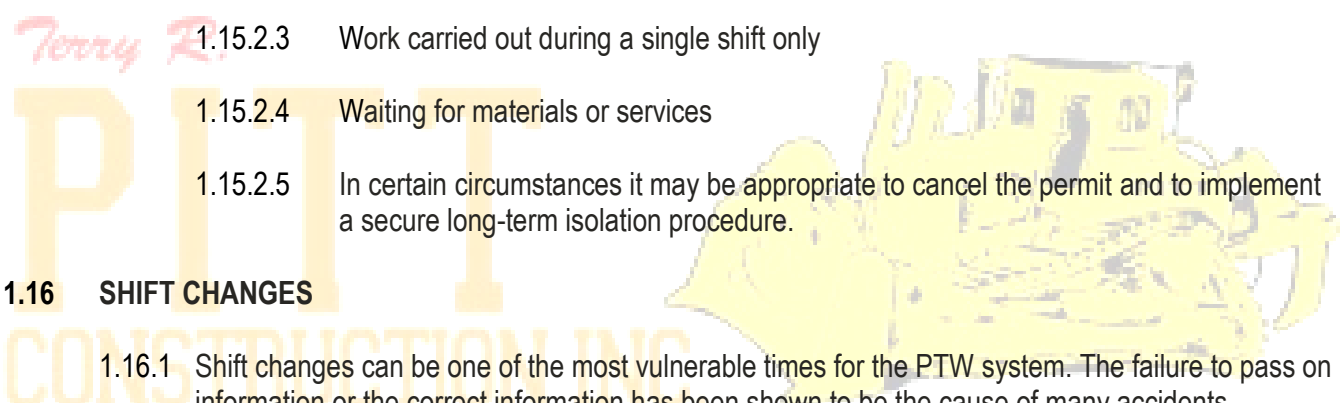
- 1.14.1 Permits should be revalidated so that the permit issuer can satisfy that the conditions under which the permit was originally issued remain unchanged, which will allow work to continue.
- 1.14.2 Revalidation is normally done at the completion of a shift.

1.15 SUSPENSION

- 1.15.1 Work being carried out under a PTW system may have to be stopped before the work is completed.
- 1.15.2 Typical circumstances where this may arise are:
 - 1.15.2.1 In the event of an emergency
 - 1.15.2.2 For operational reasons to prevent interaction with another activity
 - 1.15.2.3 Work carried out during a single shift only
 - 1.15.2.4 Waiting for materials or services
 - 1.15.2.5 In certain circumstances it may be appropriate to cancel the permit and to implement a secure long-term isolation procedure.

1.16 SHIFT CHANGES

- 1.16.1 Shift changes can be one of the most vulnerable times for the PTW system. The failure to pass on information or the correct information has been shown to be the cause of many accidents.
- 1.16.2 Installation owners should take into account, when developing PTW systems, the importance of planning the shift change such that there is sufficient overlap to allow proper review and discussion of the status of all permits to work.
- 1.16.3 Written means of communicating information can be by:
 - 1.16.3.1 Permit logbook
 - 1.16.3.2 Permit files
 - 1.16.3.3 Display boards
 - 1.16.3.4 Computer print out
 - 1.16.3.5 A combination of any of the above



1.16.4 Whichever arrangements are adopted, the shift handover arrangement should be monitored regularly to ensure its continued effectiveness.

1.17 EMERGENCY PROCEDURES

1.17.1 The PTW system should make provisions for actions in an emergency. Normally this will consist of an instruction that all work is to cease in the event of an emergency. It is likely that time will not allow formal suspension of permits by way of their return to a central control/coordination point.

1.17.2 Post-emergency actions should, however, include a re-assessment of work subject to permits to ensure that conditions have not altered as a result of the emergency, and that the permit remains valid.

1.18 RETURN OF PERMIT

1.18.1 On completion of work, the issued copies of the permit should be reunited and returned to the point of issue.

1.18.2 The copies should then be signed off by the permit issuer and the supervisor to indicate completion, subject to a satisfactory inspection of the worksite.

1.18.3 Other parties to the permits (ex. those made aware of the work who may have signed the permit) should also be informed of its completion.

1.19 SITE INSPECTION

1.19.1 Prior to signing off the permit, the permit issuer or a delegated representative should conduct an inspection of the worksite to confirm that it has been left in a satisfactory condition.

1.19.2 In signing completion, the person in charge of the work is making a statement that the worksite has been left in a safe condition and the permit issuer has to be satisfied of this before he signs his acceptance of the completed permit.

1.20 CANCELLATION OF PERMITS

1.20.1 Where the override of process shutdown or fire and gas detection/protection systems have been necessary to allow work to proceed, these should be canceled as part of the permit completion arrangements.

1.20.2 Overrides should be in place for the shortest practicable time and should not necessarily wait until the work is completed.

- 1.20.3 The permit issuer, when he is satisfied that such overrides are no longer required, should authorize their cancellation and verification. The cancellation of overrides should be indicated on the permit.

1.21 RETURN TO SERVICE

- 1.21.1 There should be a formal procedure for returning equipment to service that has been subject to work under the PTW system.
- 1.21.2 The following should be considered:
 - 1.21.2.1 Work on the equipment has been completed
 - 1.21.2.2 The plant or equipment has been left in a safe condition, and this has been verified by the person finally signing off the permit
 - 1.21.2.3 All isolations/overrides pertaining to the plant or equipment have been removed/canceled, or the status of any remaining isolations/overrides is known to operations personnel
 - 1.21.2.4 The operations person responsible for that area formally acknowledges his acceptance of the plant or equipment.

1.22 LOGS AND RECORDS

- 1.22.1 The PTW system should call for a record to be kept of permits issued over a specified period. Such a system may consist of a permit logbook itemizing issued permits or of permit copies being retained for the specified period.
- 1.22.2 The period for retention of records is typically 12 months.

1.23 TRAINING

- 1.23.1 PTW systems are only as good as the care and competence of the people who use them. It is essential to have all key personnel within the PTW system adequately trained.
- 1.23.2 Training is recommended to reflect the different responsibilities of:
 - 1.23.2.1 The person issuing the permit
 - 1.23.2.2 The person in charge of the work
 - 1.23.2.3 The workforce

1.23.3 PTW training requirements for the person issuing the permit and the person in charge of the work should include:

1.23.3.1 Legislation and industry guidance

1.23.3.2 Company policy, local rules, and procedures

1.23.3.3 Responsibilities

1.23.3.4 Case histories of accidents or near misses involving failure of the PTW system

1.23.4 A written examination or suitable assessment should be included in the training.

1.23.5 In assessing for competence, consideration should be given to:

1.23.5.1 Results of the training assessment

1.23.5.2 Relevant work experience

1.23.5.3 Personal references

1.23.6 Permit issuers should be able to demonstrate knowledge and competence in the following areas:

1.23.6.1 Plant and equipment layout

1.23.6.2 Process taking place (ex. production, drilling)

1.23.6.3 Potential hazards existing

1.23.6.4 Means of mitigating the hazards before issuing a permit

1.23.6.5 Specific responsibilities associated with issuing permits

1.23.6.6 Applicable legal requirements

1.23.6.7 Company and local rules applying to the operation of the PTW system

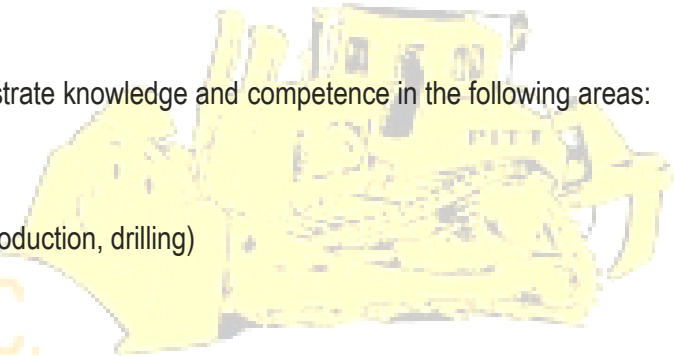
1.23.6.8 Use of all the different forms and records associated with the PTW system

1.23.6.9 Communication skills (bearing in mind multi-language locations)

1.23.6.10 Shift handover requirements

1.23.6.11 Action to be taken in an emergency situation

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- 1.23.6.12 Training requirements for role players
- 1.23.6.13 Auditing and monitoring requirement
- 1.23.7 Persons in charge of the work should be able to demonstrate knowledge and competence in the following areas:
 - 1.23.7.1 Potential hazards associated with the plant/process
 - 1.23.7.2 Precautions required before commencing work
 - 1.23.7.3 Local rules applying to the PTW system
 - 1.23.7.4 Details of the documentation involved
 - 1.23.7.5 Specific responsibilities associated with being a supervisor
 - 1.23.7.6 Shift handover requirements
 - 1.23.7.7 Action to be taken in an emergency situation
 - 1.23.7.8 Communication skills (bearing in mind multi-language sites)
 - 1.23.7.9 PTW training requirements for the job and for members of the work party
- 1.23.8 All other members of the workforce who are required to work within the PTW system should receive instructions on the specific procedures as they apply on the installation where they are to work. This should consist of a general overview of the PTW system and their specific workforce member responsibilities.
- 1.23.9 Records should be kept of the PTW training carried out.
- 1.23.10 Consideration should be given to periodic reassessment of key personnel.