



HSE PROCEDURE FOR

PERMIT TO WORK

**HSE PROCEDURE
FOR
PERMIT TO WORK
(HSEP: 12)**



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BHARAT HEAVY ELECTRICALS LIMITED

INDUSTRIAL SYSTEMS GROUP

Purpose

This procedure details the implementation of HSE Permit to Work system.

Permit to Work (PTW) System ensures that all potentially hazardous activities at site are authorized and allowed to proceed by management only after ensuring compliance with all HSE aspects, systems and procedures.

A Permit to Work is a procedure, with a written permit form, which is used to authorize and control work activities with high risk hazards. The Permit to Work procedure:

- identifies the work that is to be completed
- ensures that all potentially hazardous work is controlled and properly authorised;
- ensures that all hazards associated with the work have been identified;
- ensures that all necessary safety procedures for controlling the risks are properly implemented while the work is being completed; and,
- ensures that the worksite is left in a safe condition when the work is completed or suspended.

A Permit to Work, when effectively developed and implemented, serves as a checklist to ensure that all hazards, control measures, work procedures and general safe work requirements are identified, documented, reviewed with and understood by the personnel who will be involved with the work activities.

Permit to Work is not a standalone document and shall be used in conjunction with other permits, relevant OCPs and other documents and systems, as applicable.

2.0 Scope

Applicable to all activities, products and services of BHEL ISG

Applicability

A Permit to Work should be used for all high risk routine and non-routine, significant & non-significant work activities where existing controls have not reduced the risks to acceptable levels.

A Permit to Work should be used to:

- Describe the work to be completed;
- Identify the hazards associated with the work;
- Specify the necessary safety precautions (risk control measures) that must be implemented to manage the risk;
- Provide appropriate authorisation and responsibilities for proceeding with the work within a specified time and within specified limitations;
- Inform all affected personnel that the work is being done;
- Ensure that the plant and equipment are returned to a safe condition when the work has been completed or suspended.



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Types of Permits to Work:

The specific permit pertaining to the job is to be chosen and used.

A. General Permit to Work:

A general permit to Work is an overall Permit taken by an agency from BHEL for every major activity, which can comprise of many small activities (for example Boiler column erection, which can take a few days and can comprise height work, lifting, welding, gas cutting and many other individual operations).

The general Permit to Work shall mention the Job specific permits required, precautions taken, PPEs used and other authorization information as per Format No. **HSEP:12-F01**

Following shall hold for General Permit to Work

Requesting & verification Authority	Verification Authority	Verification Authority	Authorization / Issuing Authority	Validity	Renewal
(Subcontractor)		(BHEL)			(Subcontractor)
Package In-charge	HSE Officer	HSE Coordinator / nominee	Package In-charge	15 days or less as per job scope	To be requested and issued fresh after expiry of validity period

A general permit to work can be taken by the contractor as per requirement

B. Job Specific Work Permits:

Due to hazardous nature of certain activities, these are controlled with Job-Specific Permits to Work (Format No. **HSEP:12-F02 to HSEP:12-FXX**), in addition to other controls as per applicable systems.

For all these permits, the following shall hold:

Requesting & verification Authority	Verification Authority	Verification Authority	Authorization / Issuing Authority	Validity	Renewal
(Subcontractor)		(BHEL)			(Sub-contractor)/BHEL
Package In-charge	HSE Officer	HSE Coordinator / nominee	Package In-charge	7 days or Till duration of work	Daily renewal by Subcontractor and BHEL as per the requirement mentioned in Format.

Activities detailed in Table 4.1 and similar activities shall necessarily be undertaken with a Permit to Work



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Table 4.1 Applicable Job-Specific Work Permits

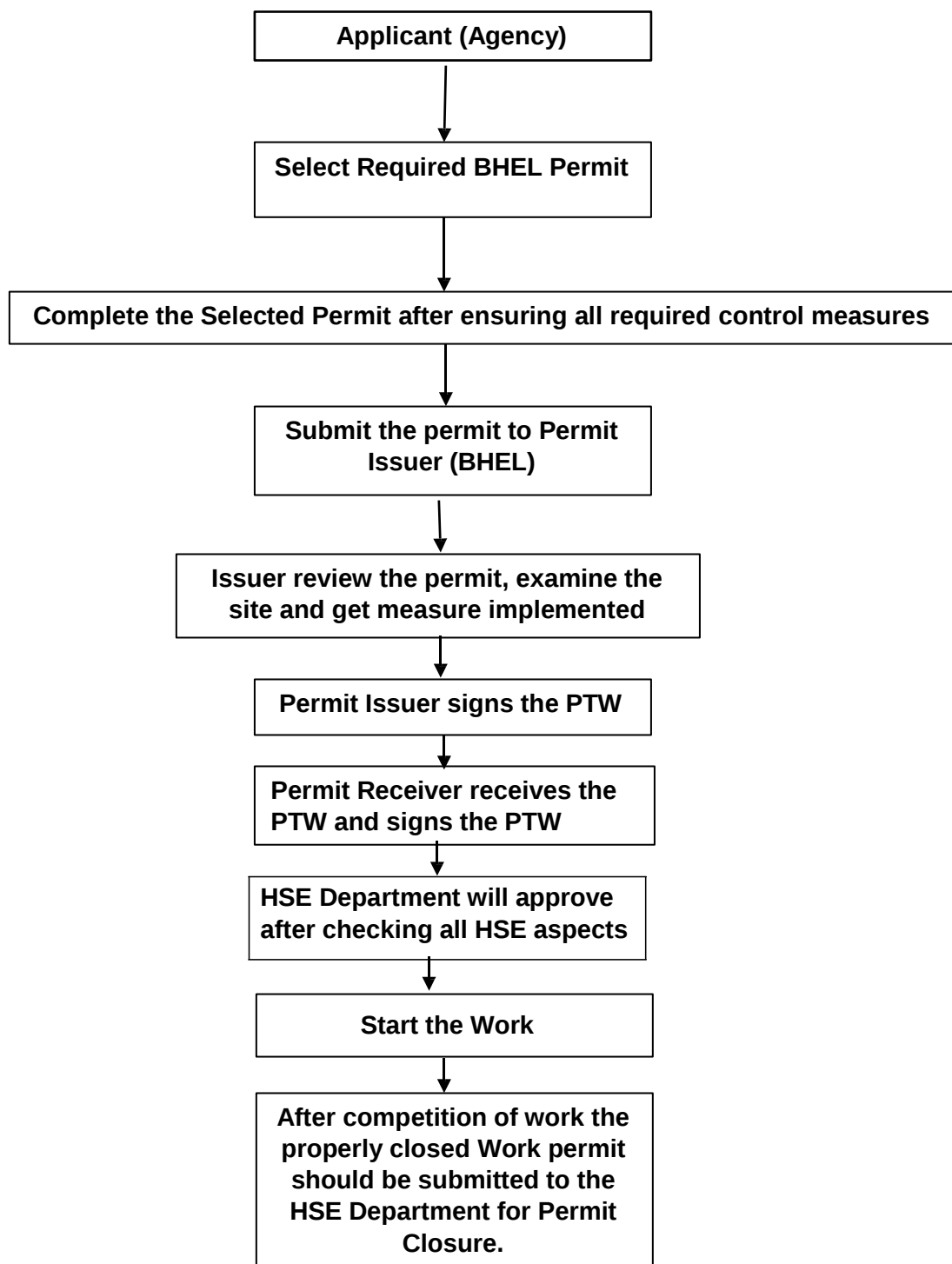
	Permit Name	Details	Format No.
1.	Height Work Permit	For height work above 2 meters (where there is a chance of fall for 2 mtrs and more).	HSEP:12-F02
2.	Hot Work Permit	- Welding and torch cutting; - Spark producing tools such as grinders and chippers and power tools such as electric drills; - Use of explosives; - Use of non-intrinsically safe electrical or electronic equipment. - Use of compressed gas cylinders	HSEP:12-F03
3.	Confined Space Work Permit	Dangers due to - The confined space design, construction, and/or location; - Atmosphere content (Oxygen level, flammable/toxic gas composition); - The materials or substances in the confined space; - The work activities or other conditions like engulfment hazard. Examples: Open or Closed Tanks; Vessels; Towers; Furnaces; Sewers; Sumps; Dry Wells; Ventilation and Exhaust Ducts; Flues; Vaults; Pipes; Reactors; Chambers; Boreholes...	HSEP:12-F04
4.	Excavation Work Permit	Any work where excavation, trenching, tunnels, drilling, pile driving and scraping (earth removal) are done. PTW is required in following cases but not limited to: - If excavation is deeper than 1.2m - Where there is potential for damaging buried pipes, electrical cables or other sub-surface equipment or structures. - Where there is an existing structure or excavated area quite close to it - Where road closure (full/ partial) is necessary. - Where there is danger of caving in of excavation walls	HSEP:12-F05
5.	Radiation Work Permit	There is a statutory requirement for using PTW for Radiography work where Ionizing radiation is used. It is always advisable to carry out Radiography after normal working hours.	HSEP:12-F06
6.	Heavy / Complex / Critical Lifting Activity Permit	- Lifting of material from lower to higher level using Cranes, Winches etc. (Lift weight 20 Tons & above or using more than 85% of crane/winch capacity) - Complex Lifting operation involving many machines / materials - Lifting of high value items (as defined by Site HSE / ISG)	HSEP:12-F07
7.	Night Work / Holiday Work Permit	For safe work during night time / holidays (Night working will start after 10-00 PM).	HSEP:12-F08
8.	Loading / Unloading Permit	For loading / unloading of material entering / exiting the site on truck / lorry / trailer.	HSEP:12-F09
9.	Grating / Safety Net / Safety Facility Removal Permit	For removing installed grating / safety net / safety facility.	HSEP:12-F10
10.	Lockout / Tag out Request Permit	For energy isolation during work and this permit is to be attached with main permit. (Refer Annex-A: Lockout/Tag-out guidelines)	HSEP:12-F11

Site HSE coordinator shall facilitate the availability of these Permits through sourcing / development. Any development request shall be sent to Head, HSE, ISGHQ through Head, HSE, ISG

BHEL and Subcontractor HSE and Package In-charges shall ensure safe work as per this Permit, OCPs and other applicable systems through regular site inspections, penalties etc. throughout the validity period of the permit

BHEL and Subcontractor HSE and Package In-charges shall ensure safe work as per this Permit, OCPs and other applicable Procedures through regular site inspections, penalties etc. throughout the validity period of the Permit

5.1 Permit to Work Flow Chart (All Types)



Detailed Permit to Work Procedure

Preparation of a Permit to Work

A Permit to Work will be used for any potentially hazardous work or work that will be done by a sub-contractor for BHEL. When work requiring a Permit to Work (**PTW**) has been identified, the PTW Issuer will prepare the PTW, using the PTW “checklist” to identify and document on the Permit all hazardous conditions and safety procedures that must be followed by the persons who will complete the work. During the preparation of permit, reference will be made with Hazard and Risk Register, Aspect and impact Register, ROR, OCP etc. The hazardous conditions and safety procedures will be reviewed and where necessary modified during a Pre-job meeting.

The PTW will specify:

- the type of work being completed;
- the type of Permit to Work (hot work, cold work, confined space entry, excavation, electrical or vehicle entry) being issued;
- hazards associated with the work;
- safety procedures such as: isolation requirements; gas testing; emergency response procedures; personal protective equipment; purging; stand-by personnel; barriers; and,
- duration of validity.

The Permit to Work will be signed by the Permit Issuer and the Permit Receiver (tradesman, sub-contractor or foreman).

Pre-job Meeting

Before the work starts, a pre-job meeting will be held with all persons, including the sub-contractor foreman and appropriate trade persons, to:

- Review all hazardous conditions that are expected during the work;
- Review all safety procedures that will be followed while completing the work;
- Ensure that all persons completing the work are aware of and accept their responsibilities while completing the work;
- Ensure that all other persons in the general work area are aware of the potential hazards and safety procedures that must be followed;
- Ensure that all of the hazardous conditions and appropriate safety procedures are identified and documented on the Permit to Work;
- Document the results of the pre-job meeting (who attended the meeting, what was discussed and what procedures were agreed upon).

5.3 Issue of Permit to Work

Once all of the work tasks, hazards and safety procedures have been identified and documented on the Permit to Work, the Permit issuer must ensure that the appropriate risk controls (e.g. isolations, purging, emergency response preparations, personal protective equipment) have been implemented and that the work site is in a safe condition before he or she authorises the Permit to Work. The Permit issuer must be satisfied that all of the specified Permit to Work conditions have been complied with before the Permit is authorised and issued.

A signed copy of the Permit to Work will be given to the person who is responsible for supervising the work (tradesman, foreman or sub-contractor) and a copy will be kept by the Permit issuer. A copy will also be given to the BHEL HSE Coordinator / Officer.

The Permit copy provided to the person who is responsible for supervising the work must be kept at the job site while the work is being done.

Work Conducted with a Permit to Work

After the Permit to Work has been issued, the person supervising the work (tradesman, sub-contractor or foreman) is responsible for ensuring that the Permit to Work conditions are complied with. The work site Supervisor is responsible for arranging periodic inspections of the work by himself and/or the BHEL HSE Coordinator / Officer to ensure that the Permit to Work conditions are being complied with. For example, if continuous or periodic gas tests are required while the work is being completed, the authorised gas tester will perform these gas tests and record, on the Permit to Work copies, the gas readings and the times that the gas tests are completed.

If the Permit to Work conditions change significantly, or high risk, hazardous conditions occur while the work is being done, the work must stop until the hazardous condition(s) are eliminated (or the risks are reduced to acceptable levels).

Temporary Removal of Isolations

There are situations where isolations must be temporarily removed (e.g. when testing equipment during the work). When isolations must be temporarily removed, the Permit to Work issuer must be informed and checks must be made to ensure that the isolation removal does not create any hazards for the work site and workers before the isolations are removed. After the requirement for the temporary isolation removal has been completed, the

isolations must be replaced and the Permit Issuer must be informed that the isolations have been replaced.

Suspended Work

There are situations where work being done with a Permit to Work must be suspended. Some examples of when this may occur are:

- High risk, hazardous situations occur and for safety reasons, the work must stop;
- The work requires more time than is allowed on the Permit to Work (the work isn't completed before the time when the Permit to Work expires);
- An accident occurs while the work is being completed;
- An emergency (e.g. fire alarm) occurs at the plant site (e.g. compressor station);
- The work scope changes significantly from what was originally planned when the Permit to Work was prepared and authorised.

Whenever these and similar situations occur, the work must stop immediately; the work site must be made as safe and secure as possible; and a new Permit to Work must be prepared and authorised, following all of the steps required when making any Permit to Work. In all cases, safety procedures must be implemented to make the work site safe before work starts again (eliminate the hazards or reduce the risks to acceptable levels). Once the safety procedures have been implemented and a new Permit to Work has been issued, work can start again.

Monitoring the Work

Work that is being carried out with a Permit to Work must be regularly monitored by all permit signatories including the Package In-charge / Engineer and/or the site HSE Supervisor to ensure that the specified safety procedures are being complied with. The Project Supervisor must make a schedule for determining how often the work should be monitored. For jobs where there are potentially high risks, the work should be monitored more frequently, particularly when critical tasks are being completed. Whenever specified safety procedures are not being complied with, the work must be stopped until the Project Supervisor and/or the HSE Supervisor determines that the safety procedures are being complied with.

If the non-compliance is very serious, a written report, describing what the non-compliance was and why the non-compliance occurred, must be written and submitted to the HSE Coordinator. A copy of the report should also be kept at the work site field office. If a sub-contractor is responsible for the serious non-compliance, another copy of the report should be sent to the

Contracts Administration Department and the copy should be kept in the sub-contractor's file for future contract evaluation reference.

Completion of the Work

When the work has been completed, the job site must be left in a safe, operating condition with all locks, tags and isolations removed. All rubbish, surplus materials, tools and equipment used for the work must be removed from the work site. To the extent possible, the work site must be restored to its original condition before the work started, unless the work was intended to change the work site condition (e. g. construction of structures, permanent excavations, permanent landscaping).

Closing the Permit to Work

After the work has been completed and left in a safe operating condition, the person responsible for supervising the work (tradesman or sub-contractor foreman) must inform the Project Supervisor. The Project Supervisor must then inspect the work and ensure that:

- The work was completed as it was specified;
- All locks, tags and isolations have been removed;
- The work site was returned to a safe, operating condition;
- All rubbish, surplus materials, tools and equipment used for the work has been removed from the work site;
- The work site has been restored to its original condition.

When the Project Supervisor is satisfied that the work site is clean and in a safe operating condition, then both the Project Supervisor and the person responsible for completing the work will check the work finalisation on the Permit to Work and sign to indicate their agreement that all of the safety conditions for completing the work have been met.



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6.0 Responsibilities

	Agency	Detailed Responsibilities w.r.t. Permit to Work System
1	BHEL Site Management	- Ensures that a Permit to Work system has been developed and is being appropriately implemented for all non-routine and/or hazardous work identified as per HSE Procedure for OHS Hazards & Risks and Environmental Aspects & Impacts; - Ensures that all personnel, including employees and sub-contractors, are fully aware of, and knowledgeable about, the Company's Permit to Work system and the application of Permits to Work for non-routine and/or hazardous work; - Ensures that all personnel who are responsible for issuing, receiving and implementing Permits to Work have received the appropriate training and awareness to apply Permits to Work to applicable work situations; - Ensures that there are sufficient resources, including personnel and time, to appropriately implement the Permit to Work system - Ensures that there is a system to monitor the application of Permits to Work to the work site by a designated nominee, in order to assess the effectiveness of the Permit to Work system and to ensure that the Permit to Work system is used correctly and appropriately in all situations where a Permit to Work is required.
2	Package In-charge / Engineer	- Ensures that safe working conditions are planned and prepared prior to, and maintained during, the entire job; - Ensures that, except for emergency situations, applications for Permits to Work are submitted to the Permit to Work issuer at least 24 hours prior to the requirement for the Permit to Work; - Ensures that Permits to Work are issued for all work where Permits to Work are required and that no work proceeds until all of the requirements of the Permit to Work have been fulfilled; - Ensures that personnel who are working on jobs and tasks where Permit to Work conditions apply, are fully aware of their respective responsibilities as specified on the Permit to Work; - Ensures that, where necessary, a hazard identification and risk assessment process, such as job safety analysis, has been completed to identify high risk hazards and appropriate risk control measures which will be implemented to reduce those risks to an acceptable level;

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		- Ensures that all necessary risk control measures have been identified on the Permit to Work: - Ensures that all of the terms and conditions are being complied with for any work where a Permit to Work has been issued; - Ensures that work being controlled by a Permit to Work, is regularly monitored for Permit to Work requirement compliance.
3	HSE Coordinator	- Is responsible for developing and implementing Permit to Work training programmes for all personnel who have responsibility for managing, supervising, issuing, receiving and implementing Permit to Work systems; - Is responsible for undertaking regular inspections of work where Permits to Work apply to monitor the effectiveness of the Permit to Work system and its implementation; - Is responsible for periodically reporting, to the Company management and supervisory personnel, on the effectiveness of the Permit to Work system and its implementation and for making recommendations for improvement if required.
4	Permit Issuer (Issuing Authority) – can be same as (2)	- Ensures that Permits to Work are written correctly, specifying all the necessary risk control terms and conditions that are applicable to the type of work being completed; - Ensures that any applicable, supplemental information (e.g. P&ID, confined space entry checklists, isolation checklists and drawings, Job Safety Analysis results and conditions) are attached to all copies of the Permit to Work; - Ensures that Permits to Work are written in a timely fashion, and wherever possible, the work is not unnecessarily delayed because of the Permit to Work process; - Ensures that the permit receiver is a person who is competent to fulfil the terms and conditions that are specified on the Permit to Work; - Ensures that copies of Permits to Work are distributed according to the requirements of the business entity; - Ensures that copies of Permits to Work are prominently displayed in a central location (e.g. on a display board in a control room or office where the permits are issued) so they can be easily reviewed by Management, Supervisors, HSE and other personnel as appropriate;



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		• Ensures that the original Permit to Work is retained on file for a period of at least two years; • Ensures that Permits to Work are closed out on the scheduled date • Reports, to Management, Supervisors and HS&E any Permit to Work system deficiencies that are identified.
5	Permit Receiver (Permit User)	• Ensures that (task performing) person is knowledgeable about and understands fully the hazards and risks that are associated with the work that is being completed; • Ensures that person knowledgeable about and understands fully the risk control measures that are to be implemented prior to and during the work that is being completed; • Ensures that person is knowledgeable about and understands the risk control measures that are specified on the Permit to Work; • Ensures that all other personnel who are completing the work or will be affected by the work, are knowledgeable about and understand fully the hazards, risks and risk control measures which are applicable to the work that is being completed; • Ensures that all personnel who are completing the work complies with all of the risk control measures that have been specified on the Permit to Work; • Ensures that if there are any significant changes to the risks or to the scope of work that is being completed that the work is stopped, personnel, equipment and the environment will not suffer a loss and that the Supervisor, or his/her Designated Representative plus the Permit Issuer are fully aware of the change in the risks or scope of work; • Ensures that, if required, the Permit to Work is cancelled and a new Permit to Work, with modified risk control measures, is issued before work resumes; • Ensures that if the work is completed, that the work site is left in a safe and operable condition; that all unnecessary tools, equipment and materials are removed from the site and ensures that the Permit to Work is closed; • Ensures that if the work is not completed at the end of the validity, that the work site is left in a safe, secure and tidy condition and that another Permit to Work is prepared and issued before work resumes at the work site.



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7.0 Permit to Work Training

PTW Awareness Training will be integrated into the Project Safety Induction Course. HSE Department will also provide the specific PTW training to all construction supervisors, engineer or other site employees as per need.

Formats:

Following Formats are associated with this procedure

- **HSEP12:F01** - Format for General Permit as per Clause 4.0 (A)
- **HSEP12:F02 to 11** - Formats for Job Specific Permits as per Table 4.1

Documents & Records:

In order to ensure successful auditing of the permit system, records of the following must be kept:

- Details of issued permits.
- Permit related training provided — subjects covered, names of those trained and the levels of training given
- Records of serious non-compliances w.r.t. Permit to Work as per Clause 5.3.4
- Incidents where permit procedures "failed" so that permit modifications can be considered.

Review

A review shall be carried out to ensure the content of this procedure is still applicable, current and practicable. A review should take place:

- a. Whenever the process/equipment changes
- b. At a periodic frequency (every two years)
- c. Whenever required in course of operation.

whichever is earlier

Any proposed changes to this procedure shall be brought to the notice of Head, HSE, ISGHQ through Head, HSE, ISG

Annexure-A: Lock-Out / Tag-Out guidelines

Annexure-A: Guidelines for Lockout/Tag-out of Hazardous Energy

These guidelines provide the requirements and responsibilities of Hazardous Energy Control and the process for Lockout / Tag-out (LOTO) of energy isolating devices (valves, circuit breakers, disconnect, etc.). Its use shall ensure that machinery, equipment, or systems are isolated from all potentially hazardous energy to prevent unexpected energization, startup, or release of stored energy which may cause personnel injury or property damage.

Lockout / Tag-out is not required for electrical equipment that can be unplugged from the source and the person performing the work has control of the plug.

This procedure shall be applied to prevent injury or damage caused by the unexpected release of active or stored energy. Hazardous energy sources could include Electrical, Hydraulic, Chemical, Thermal, Mechanical, Pneumatic etc.

Pre-planning: The identification of all potential hazardous energy sources to be undertaken so that they can be properly controlled and isolated, locked, and tagged out.

Prior to initiating work activities on or around locked out / tagged out equipment, the equipment must be tested and tried by or in the presence of the person(s) performing the work activities.

Responsibilities:

- The Engineers in Charge is responsible for implementing these guidelines and approving lockouts /tag outs that impact the operation of the project.
- The Engineer in Charge responsible for authorizing Lockout /Tag out Requests.
- The Lockout / Tag out Coordinator are responsible for maintaining the Lockout / Tag out Log. Each shift should have a designated Lockout / Tag out Coordinator.
- The designated **Isolator** is responsible for determining the proper isolation devices and device positions required to isolate all potential energy sources so that the work stated on the Lockout /Tag out Request Permit may be safely performed. The Isolator must be familiar with the equipment and energy type(s) that require isolation. For this reason, in some cases the Isolator may be more than one person (i.e. Engineer, System Operator and/or Electrician). The Isolator shall position the specified device points, and apply locks and tags, and sign the tags and the LOTO Permit isolation point blocks.
- The Safety Manager is responsible for conducting an annual audit that is documented to ensure all procedures and requirements are current and being followed as written.

Definitions:

Affected Employee - An employee whose job requires him / her to operate or use machinery or equipment on which servicing or maintenance is being performed under a lockout / Tag-out procedure or whose job requires him / her to work in an area in which servicing or maintenance is being performed under a lockout / Tag-out procedure.

Authorized Employee - An employee who implements a lockout / Tag-out procedure on machinery, equipment, or systems in order that servicing or maintenance may be performed. Often, an authorized employee and an affected employee may be the same person.

Danger "Do Not Operate" Tag - A tag used to identify energy isolation devices and specify the required position of the device. The tag should be affixed to the isolation device such that it is in plain view of anyone attempting to operate the device. The tags shall be sequentially numbered and shall specify the lockout / Tag-out request number. The tag shall also state the purpose, and the expected duration of the lockout / Tag-out.

Annexure-A: Lock-Out / Tag-Out guidelines

Isolation Device - A device that is designed and intended to prevent the passage of energy. These devices, usually located at the energy source, are typically valves, circuit breakers, etc. Isolation devices should have a means of being locked in position.

Lockout Device - A device that uses a positive physical means such as a lock, either key or combination type to maintain an energy isolation device in the safe position and prevent the inadvertent energization of machinery, equipment, or systems. Device locks should serve no other purpose other than hazardous energy control isolation.

Lockout / Tag-out Request Permit - A pre numbered form used to request that machinery, equipment, or systems be taken out of service. A Lockout / Tag-out Request Permit may be initiated by anyone requiring energy isolation for work activities or for taking faulty equipment out of service, (**Format No. HSEP:12-F12**).

Lockout / Tag-out Request Log - A record of all Lockout / Tag-out Request Permits shall be maintained by the Lockout / Tag-out Coordinator, (**Format No. HSEP12: F12A**).

Detailed Guidelines

REQUESTING A LOCKOUT / TAG-OUT PERMIT

- When machinery, equipment, or systems are partially or completely taken out of service for work activities or equipment protection, a lockout / tag out shall be requested. The requestor shall be familiar with scope of work required and shall provide a brief description of the work on the Lockout / Tag out Request Permit. The requestor shall also provide the proposed start time and estimated duration of lockout / tag out. If familiar with the machinery, equipment, or system to be taken out of service, the requestor may identify the devices that are required to be isolated. The LOTO Request Permit shall be forwarded to the Authorized Lockout / Tag out Coordinator for reviewed and signature, along with Permit to Work number to be entered on the LOTO Request Permit.
- The Lockout / Tag out Coordinator shall record the necessary information on the Lockout / Tag out Request Log and forward the request to the Engineer in Charge for approval.
- The Safety Manager and/or Engineer in Charge shall review the Lockout / Tag out Request Permit for impact on project operations. Project operations could be impacted by the equipment being taken out of service or by the required isolation to take the equipment out of service. If project operations are impacted by the Lockout / Tag out, the request shall be forwarded to the Engineer in Charge for approval. The Engineer in Charge shall provide the lockout / tag out isolation points necessary to perform the task stated on the request. The device identification, device location, device position, and locking mechanism shall be entered into the appropriate blocks on the Lockout / Tag out Request Permit.
- The Engineer in Charge indicates approval of the Lockout / Tag out Request Permit by signing in the appropriate space on the request. If the Lockout / Tag out Request Permit is rejected, the Engineer in Charge shall return it to the requestor, via the Lockout / Tag out Coordinator with a written explanation of the rejection.
- Once approved, the Lockout / Tag out Request Permit shall be forwarded to the Lockout / Tag out Coordinator to assign tags and locks.
- The LOTO log shall show current status of all Lockout / Tag-out Request Permits from submittal to approval, through lifting of locks and tags to final closeout. The log shall be maintained by the Lockout / Tag-out Coordinator in their office.

Annexure-A: Lock-Out / Tag-Out guidelines

PLACEMENT OF LOCKS AND TAGS

- The tags shall be filled out to match the information on the LOTO Request Permit. Appropriate locks for the types of isolation devices specified shall be collected and placed with the tags and the Lockout / Tag-out Request Permit.
- The isolator (s) shall take the device locks, tags, and the Lockout / Tag out Request Permit to position the specified isolation devices, sign and hang the tags, and place the locks. If the isolator does not agree with or understand the Lockout / Tag out Request Permit, or has a problem performing the isolation, the problem should be brought to the attention of the Safety Representative or Area Supervisor immediately and the lockout / tag out should be postponed until the situation is resolved.
- Once the Isolator has placed all “locks” on isolation points, they will “test” and “try” the machinery, equipment, or system to ensure all hazardous energy has been completely removed and the isolation is one totally accomplished, and has initialed and signed the Lockout / Tag-out Request Permit indicating all isolation points have been confirmed.
- o Examples of “lock”, “test” and “try”; by checking that all locks on the LOTO Request Permit have been applied and are in the specified position open/closed, on/off, etc.; metering test of electrical circuits, opening of drain valves, checking pressure gauges or indicators; and try by pushing start buttons and on/off switches, etc.
- Testing shall be performed by person(s) knowledgeable of the energy source(s) being isolated (e.g., an electrician should meter electrical circuits).
- A copy of the completed Lockout /Tag-out Request Permit shall remain with the Work Package and used as part of the daily Pre Job Briefings.

WORKING UNDER A LOCKOUT / TAG OUT REQUEST

- Prior to starting the work activity, the person(s) performing the work shall review the Lockout / Tag out Request Permit and place the necessary tags and personal locks on the identified isolation devices. Personal locks may be placed only on devices that have already been locked and tagged in accordance with the Lockout / Tag out Request Permit.
 - o All personal locks shall be accompanied by a tag or form of identification of the person who placed it should they need to be contacted.
 - o If personal lock is not provided, then all affected employees shall put their sign at the backside of Lockout / Tag-out Request Permit before starting the job.
- Verification of the effectiveness of the isolation by the Isolator shall be performed.
- When the work activity is finished, personal locks and tags shall be removed or affected employees shall put their sign at the backside of Lockout / Tag-out Request Permit and the Safety Representative shall be notified that the Lockout / Tag out is no longer required. If work under a lockout / tag out is to be delayed or interrupted for a period in excess of 24 hours, personal locks shall be removed until the work restarts. Personal locks shall be removed prior to the worker(s) leaving the project at the end of shift unless the key(s) are maintained at the project.

Annexure-A: Lock-Out / Tag-Out guidelines

- The Lockout / Tag-out Coordinator shall discard the tags and maintain the completed Lockout / Tag-out Request Permit for future reference and records.

REMOVAL OF LOCKS AND TAGS

- When the lockout / tag out is no longer required, the Safety Representative or Area Supervisor shall obtain the Lockout / Tag out Request Permit from the work package for LOTO removal. Prior to removing locks or tags that may allow equipment to be energized, a check shall be made to verify that the equipment is free to safely operate (i.e., will not cause damage or injury). The locks and tags shall be removed and returned to the Lockout / Tag out Coordinator. Isolation devices may be repositioned at the discretion of the Engineer in Charge according to operational requirements. The Isolator shall complete the Lockout / Tag out Request Permit indicating each lock and tag has been removed and the Safety Representative or Area Supervisor forward to the Lockout / Tag out Coordinator.
- The Lockout / Tag out Coordinator shall discard the tags and maintain the completed Lockout / Tag out Request Permit for future reference.
- In the event that an employee leaves the job site without removing the personal lock / tag, the following measures shall be taken and documented. The measures listed below are a minimum set of guidelines and under all circumstances, refer to the site specific safe work plan for detailed procedures:
 - o Attempt calling / contacting the employee to return to the site for removal.
 - o In the event an employee cannot be contacted, the Site Manager and Safety Manager shall sign an Emergency Lockout/Tag-out Removal Form, (**Format No. HSEP12: F12B**), which has been completed by the Area Supervisor.
 - o Employee shall be notified upon returning to the site, prior to beginning any work.

INTERRUPTION OF A LOCKOUT / TAG-OUT

Operational Emergency

The Engineer in Charge / Safety Manager /Area Supervisor may deem it necessary to temporarily remove the locks and tags from isolation devices, prior to the end of the work activity. The standard procedure for removal of locks and tags shall be followed. Extreme caution shall be taken by the Isolator removing the locks and tags to prevent personnel injury.

Testing

When the performance of a work activity requires the functional testing of a machine, component, or system, the locks and tags may be temporarily removed in accordance with the tag removal, to perform the test. As a result of the testing, if it is determined that the equipment needs further work, the locks and tags shall be positioned back on to the device. If it is not necessary to replace all the locks and tags, then the unnecessary locks and tags may be returned to the Lockout / Tag out Coordinator. The Engineer in Charge shall initial the Lockout / Tag out Request Permit in the removal block to indicate that these locks and tags have been removed. When testing has been satisfactorily completed, the locks and tags shall be removed.

Annexure-A: Lock-Out / Tag-Out guidelines

ISOLATION DEVICES

- In most industrial applications, there are isolation devices that were not designed to accommodate a locking device. In these instances, an acceptable alternative that physically obstructs or prevents the use of the isolation device shall be found. Chains shall be placed on valves or electrical panels. Wires shall be determinate, pulled back, taped, and secured.
- If an isolation device does not accept a lock, a tag only is acceptable; however, all possible precautions shall be undertaken to provide a level of safety for the workers. The tag shall be readily visible to anyone attempting to operate the device.

GROUP / COMPLEX LOCKOUT

In a multiple lockout / Tag-out procedure, each person working on the machinery or equipment must place a lock or tag on the energy isolating device. If the energy isolating device will not accept multiple locks or tags, a hasp (a multiple lockout device, (**see Annexure 2**) may be used. The locks or tags must be placed in such a way that energy cannot be restored to the machinery or equipment until every lock or tag is removed. As each employee involved no longer needs to maintain lockout / Tag-out protection that employee removes his - her lock and/or tag. The employee attaching the lock or tag is the only person authorized to remove the lock or tag.

TRAINING

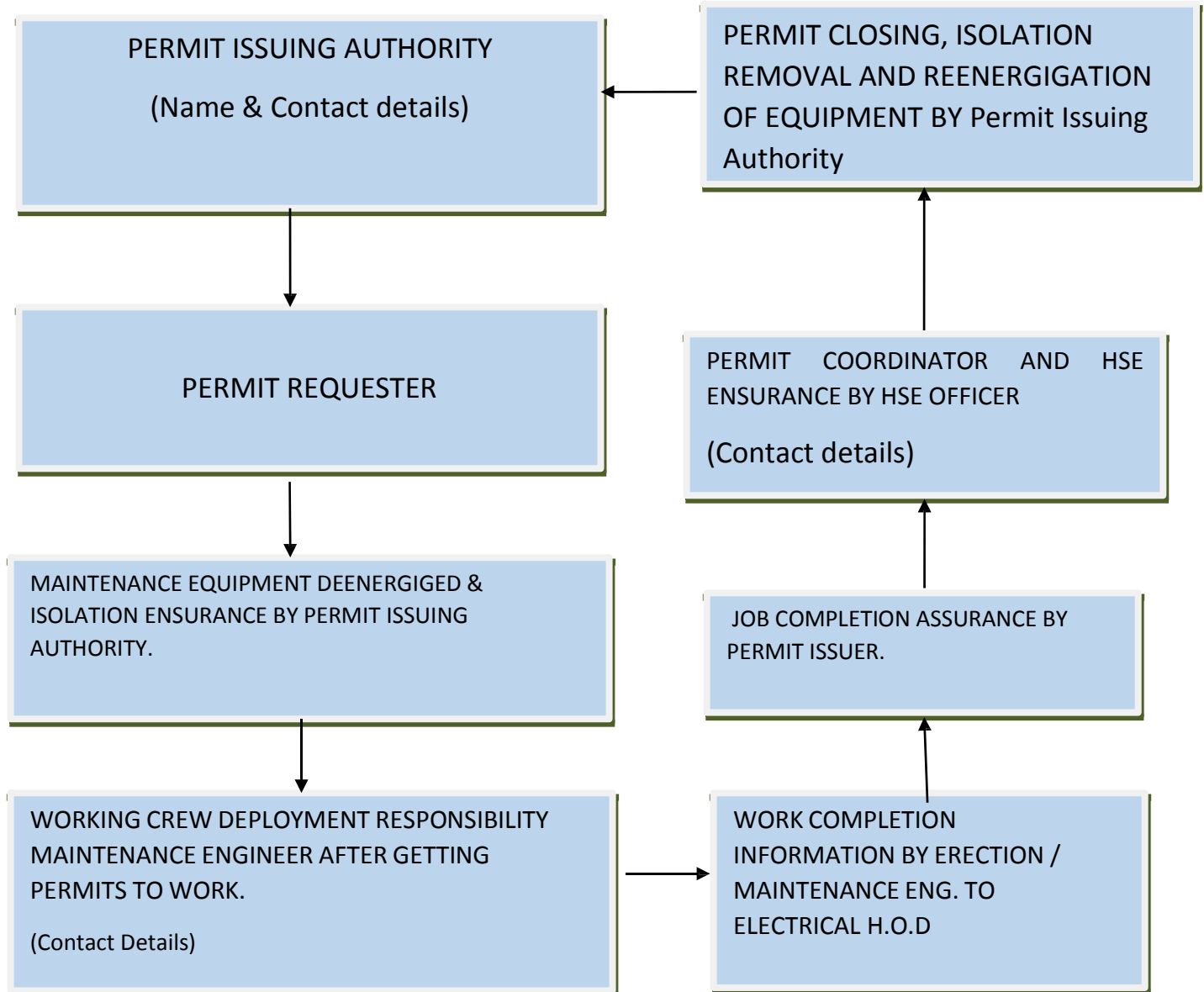
The training must include recognition of hazardous energy source, type and magnitude of energy available, methods and means necessary for energy isolation and control. Each authorized employee shall receive adequate training. The training should address that all affected employees are instructed in the purpose and use of the energy control procedure. There should be training provisions included for any other employee whose work operations are or may be in an area where energy control procedures may be utilized. The training should also include that a tag is not to be removed without authorization. The tag is never to be ignored or defeated in any way. Retraining is required when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced. All training and I or retraining must be documented with employee's name and dates of training.

PROGRAM REVIEW

The lockout / tag out program must be reviewed at least annually. The review must ensure that procedures are being followed and that they are effective. A documented review of the inspection must include the date, the equipment, employees involved & the inspector. The inspector must be someone other than those actually using the lockout / tag out in progress.

Annexure-A: Lock-Out / Tag-Out guidelines

WORK PERMIT RESPONSIBILITY FLOW CHART



Annexure-A: Lock-Out / Tag-Out guidelines

Format HSEP12:F12A - LOCKOUT / TAGOUT REQUEST LOG

[illegible]

Annexure-A: Lock-Out / Tag-Out guidelines

Format No. HSEP12:F12B - EMERGENCY LOCKOUT / TAGOUT REMOVAL FORM

Date: _____ Time: _____

Name of Equipment/System Locked: _____

Location of Equipment: _____

Reason for Removing Lock: _____

Authorized Employee's Name: _____

Have the following actions been taken?

Yes	No	
		Verified that the equipment is safe before removing the lockout/tag-out device?
		Removed all nonessential items from around the machine? Ensured all employees are free and clear of the equipment?
Answer items below only if removal of lockout / tag-out is being done by an authorized employee other than the installing employee.		
Yes	No	
		Verified that the authorized employee is not available to remove their lockout device?
		Made all reasonable attempts to inform the authorized employee that the Lockout has been removed?
		Contacted the authorized employee's Supervisor?

Site Manager (signed by): _____ Date: _____

Safety Manager (signed by): _____ Date: _____



Clause	Rev. No.	Brief of Revision	Authorized by	Date
	00	First Issue		

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