

Technical Standard _ Operational Work Control – Minimum Requirements for Permit to Work System

Vedanta Resources Limited

Sustainability Governance System

Technical Standard Operational Work Control – Minimum Requirements for Permit to Work System

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HOW TO USE THIS STANDARD

This Technical Standard establishes the minimum mandatory Group requirements for the operational control of hazardous work. It defines **what shall be implemented across Vedanta**.

It does not prescribe:

- Business Unit procedures;
- Permit formats;
- Software platforms;
- Organisational structures;
- Detailed operating methods; or
- Field checklists.

Implementation guidance is contained in **GN48 – Operational Work Control Guidance Note**.

Operational tools, templates and field aids are contained within the **PTW Playbook and applicable Field Checklists**.

Where this Standard states that a requirement shall be implemented, Business Units shall determine the appropriate method of implementation provided that the minimum requirement is met.

INTERPRETATION

Throughout this Standard:

- Shall – Mandatory requirement
- Should – Recommended practice
- May – Permitted option
- Can – Capability or possibility
- Note – Informative guidance

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1. INTRODUCTION

The Permit to Work* (PTW) system is a **key operational work control*** for the safe planning, authorization, coordination, and execution of hazardous work*.

It provides a structured framework to identify hazards*, assess risks*, establish required precautions, communicate requirements, and control work activities. It is important to note that:

- A Permit to Work (PTW) system shall not be regarded as a substitute for hazard elimination and risk reduction.
- The issuance of a permit does not, in itself, ensure worksite safety.
- Permit requirements address identified and foreseeable risks.
- Safe execution of work relies on effective planning, implementation of prescribed controls, adherence to approved procedures, use of suitable tools and equipment, and the competence and judgement of authorised personnel.

1.1 Purpose

This Technical Standard establishes Vedanta's minimum mandatory requirements for the operational control of hazardous work through the implementation of a Permit to Work (PTW) Management System.

The **objectives of this Standard** are to:

- Prevent fatalities and serious injuries associated with hazardous work;
- Establish a consistent Group-wide approach to operational work control;
- Ensure hazards are identified and risks are assessed before work commences;
- Require Critical Controls* to be implemented and verified where applicable;
- Establish clear operational accountability and decision-making authority;
- Maintain operational control throughout execution and when conditions change;
- Ensure workplaces are safely restored before responsibility is returned to Operations; and
- Promote continual improvement through assurance and learning

1.2 Scope

This Technical Standard applies to all hazardous work undertaken within operations under Vedanta's operational control, including work performed by

- Employees;
- Contractors/ Business Partners;
- Subcontractors;
- Consultants, and
- Other authorised personnel

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This standard applies across all Vedanta Businesses and Controlled Operations, including mining, smelting, refining, oil and gas, power, ports, exploration, construction, and associated infrastructure.

This Standard applies throughout the operational lifecycle, including construction, commissioning, operation, maintenance, modification, and decommissioning activities.

Business Units may establish additional requirements, where justified by risk, legislation or local operating conditions, provided those requirements do not reduce the minimum requirements established by this Standard.

1.3 Relationship to Other Vedanta Standards

This Standard shall be implemented in conjunction with applicable Vedanta:

- Health & Safety Policy;
- Management Standards;
- Technical Standards;
- Safety Standards;
- Guidance Notes; and
- Applicable legal and regulatory requirements.

Where another Vedanta Standard or applicable legal requirement establishes a more stringent requirements, the more stringent requirement shall apply.

GN48 provides guidance on implementation of this Standard. It does not introduce additional mandatory requirements beyond those established in TS24

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2. DEFINITIONS

Definitions of key terms used in this document are shown in the following table.

Term	Definition
Area Authority/Custodian	The Areas Authority is the designated owner of the facility, building, structure, equipment, or operational area within their assigned functional responsibility and is responsible for operational control of the workplace and for releasing and accepting the work area.
Authorized Isolator or Isolation Officer	Authorised Isolator or Isolation Officer is a competent person designated and authorised to perform the isolation and restoration of hazardous energy sources within their designated discipline.
Business/Business Unit	A Vedanta operating entity, business, site or other organisational unit to which this Standard applies.
Competent Person	A person who, through a combination of training, qualification, experience and demonstrated capability, has been formally assessed and authorised by the Business to perform a specified PTW role or task.
Critical Control	A control that prevents, detects or mitigates a material unwanted event associated with a Critical Risk
Critical Risk	A risk identified by Vedanta or the Business Unit that has the potential to result in one or more fatalities or permanent disability
Emergency Permit	An expedited Permit authorisation used only in a declared emergency where immediate action is required to protect life, the environment or critical assets.
Hazard	A source, situation, or condition with the potential to cause harm to people, damage to equipment or property, or adverse impacts on the environment.
Hazardous work	Work that requires formal operational control because of the potential for serious injury, fatality, significant asset damage or environmental harm.
Integrated Work Package (IWP)	A coordinated planning arrangement bringing together multiple Permits, risk assessments and supporting documents where several work activities, Permit categories, contractors or interacting controls form part of one job or one SIMOPS scenario.
Operational Work Control	The systematic process of planning, assessing, verifying, authorising, executing, supervising and completing hazardous work while maintaining operational control
Permit Initiator and Acceptor	Permit Initiator and Acceptor is a competent representative of the work-executing agency authorised to initiate and accept a Permit to Work (PTW). A single person holds both these responsibilities in a permit to work process.

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Permit Issuer or Permit Issuing Authority	Permit Issuer or Permit Issuing Authority is a competent individual designated by the Area Authority and authorised to issue Permit to Work (PTW) within a specified area of responsibility.
Permit to Work	A formal process used to authorise hazardous work after confirming that the work has been planned, hazards assessed, applicable Critical Controls verified and responsibilities assigned.
PTW Management system	The documented system established by a Business Unit to control hazardous work in accordance with this Standard.
Risk	The combination of the likelihood of a hazardous event or exposure occurring and the severity of the resulting consequences.
Risk Assessment	A systematic process for identifying hazards, evaluating the associated risks, comparing them against defined risk criteria, and determining whether the risks are at acceptable levels or require additional control measures to reduce them to an acceptable level.
SIMOPS (Simultaneous Operations)	A situation in which two or more work activities, or an operational activity and a work activity, occur at the same time in a manner that has the potential to interact and create additional or elevated risk
Work Party	Persons performing or directly supporting the authorised work.

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3. ELEMENTS OF OPERATIONAL WORK CONTROL _ PERMIT TO WORK SYSTEM

3.1 General

- Operational Work Control provides the framework for planning, authorising, executing and completing hazardous work.
- A Permit to Work is one component of this framework.
- **A Permit authorises hazardous work; it does not make the work safe.**

The **following elements** shall apply to all hazardous work undertaken under Vedanta operational control.

3.2 PTW Management System

- Each Business Unit shall establish, implement and maintain a PTW Management System that complies with this Standard.
- The PTW Management System shall:
 - apply to hazardous work undertaken by employees, contractors and subcontractors under Vedanta operational control;
 - form part of the Business Unit Operational Risk Management System;
 - define roles, responsibilities and authorities;
 - establish processes for planning, risk assessment, authorisation, execution, change management and completion; and
 - provide a basis for assurance and continual improvement.
- Each operating site shall implement **one integrated PTW Management System**.
- Multiple Permit categories may exist within that system.

3.3 Hazardous Work Requiring a Permit

- Each Business/Business Unit shall identify activities requiring formal Permit to Work.
- Permit requirements shall be determined through risk assessment and applicable Group requirements.
- As a minimum, permits shall be required for activities involving:
 - Cold Work
 - Hot Work
 - Confined Space Entry
 - Excavation
 - Electrical Work
 - Energy Isolation
 - Temporary Energization
 - Work at Height

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- Critical Lifting Operations
- Radiography
- Other activities designated by the Business following risk assessment.
- The Business/Business Unit shall ensure that hazardous work requiring formal operational control cannot commence without the required authorisation.
- The minimum categories of work requiring Permit shall take into account Group requirements, applicable legislation and Business/Business Unit risk.

3.4 Planning before work

- Hazardous work shall be adequately planned before commencement.
- The planning shall establish, as appropriate:
 - the work scope;
 - work location;
 - work boundaries;
 - affected plant and equipment;
 - work method
 - required resources;
 - interfaces with other work;
 - contractor interfaces;
 - emergency response arrangements;
- The level of planning shall be proportionate to the complexity and risk of the work.
- Where multiple work activities, Permit categories, contractors or interacting controls form part of one job, the Business/Business Unit shall establish an appropriate integrated work planning arrangement and create an **Integrated Work Package** (see GN48).

3.5 Understanding of the Risk

- Hazards associated with hazardous work shall be identified and risks assessed before work is authorised.

3.6 Risk Assessment

- Every Permit shall be supported by a documented risk assessment appropriate to the complexity and risk of the work.
- The risk assessment shall identify, as applicable:
 - hazards;
 - potential consequences;
 - Critical Risks;
 - Controls/Critical Controls;
 - Interfaces and simultaneous activities / Simultaneous Operations (SIMOPS);

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- workplace conditions; and
- residual risk.
- The level of assessment shall be proportionate to the complexity and risk of the work.

3.6.1 Relationship with Simultaneous Operations (SIMOPS)

- The PTW Management System shall include processes for identifying, assessing and controlling interactions between simultaneous work activities.
- The assessment shall consider:
 - overlapping work areas;
 - hazardous energy interactions;
 - shared isolations;
 - vehicle movements;
 - lifting operations;
 - confined space activities;
 - process operations;
 - emergency access.
- Where interactions cannot be adequately controlled, one or more activities shall be suspended.

3.6.2 Relationship with Management of Change

- Where planned work introduces temporary or permanent changes to:
 - plant;
 - equipment;
 - operating envelopes;
 - procedures;
 - process safety systems;
- The applicable Management of Change process shall be completed in accordance with the relevant Vedanta Management Standard.
- Issue of a Permit to Work shall not replace Management of Change approval.

3.6.3 Relationship with Emergency Preparedness

- Before issuing a Permit, the Permit Issuer/ Permit Issuing Authority shall ensure that emergency arrangements appropriate to the work have been established.
- These may include:
 - rescue plans;
 - emergency communications;
 - emergency isolation;
 - fire response;
 - confined space rescue;
 - medical arrangements.

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3.6.3.1 Emergency Permits

- Each Business Unit shall establish and document a process for authorising urgent work in a declared emergency where the standard authorisation process under clause 3.9 (work authorization) cannot reasonably be completed before action is required to protect life, the environment or critical assets.
- At a minimum, the emergency permit process shall:
 - be restricted to persons designated in advance and limited to the duration of the emergency;
 - require the fastest practicable verification of the Critical Controls that are achievable given the emergency, and identification of any Critical Control that cannot be verified;
 - be subject to mandatory retrospective review, within a timeframe defined by the Business Unit, to confirm the decision and identify improvement actions; and
 - not be used routinely to bypass planning, risk assessment or Critical Control verification for work that is not a genuine emergency.

3.7 Critical Control Verification

- Where Critical Controls are applicable, they shall be implemented and **verified before work commences**.
- Applicable Critical Controls shall be physically verified before the work is authorised.
- Verification shall be based on **objective evidence** appropriate to the control and the risk.
- Historical performance, assumptions or verbal confirmation alone shall not constitute verification.
- The verification method shall be appropriate to the Critical Control and the consequences of its failure.
- Critical Controls shall be monitored and reverified as necessary throughout execution, particularly where conditions or assumptions supporting the control change.
- Critical Controls shall remain effective throughout execution.

3.8 Competency and Authorisation

- Only competent and authorised persons shall perform PTW decision-making roles.
- Business Units shall establish competency requirements for all PTW decision authorities.
- Competence shall include:
 - technical knowledge;
 - operational understanding;
 - hazard recognition;
 - risk assessment;
 - communication;
 - decision-making;
 - understanding of this Standard.
- Each Business Unit shall establish a documented competency framework covering, as applicable:
 - Area Authorities/Custodians;

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- Permit Issuers or Permit Issuing Authorities;
- Permit Initiators and Acceptors;
- Isolation officers;
- Gas Testers;
- Fire Watches;
- PTW Administrators;
- Supervisors.
- The framework shall define:
 - prerequisite qualifications (where applicable);
 - minimum training;
 - workplace experience;
 - competency assessment methods;
 - authorisation requirements;
 - refresher requirements.
- Competence shall be periodically reassessed and maintained.
- Each Business Unit shall maintain a current record of persons authorised to perform designated PTW roles.
- Competence shall be demonstrated through a combination of training, assessment and workplace performance.

3.9 Work Authorization

- Hazardous work shall only be authorised by competent and authorised persons (Permit Issuer or Permit Issuing Authority) after confirming that the conditions required for safe execution have been established.
- At a minimum, the authorisation decision shall consider:
 - whether the work scope is understood;
 - whether the hazards and the risks have been assessed;
 - whether applicable controls/Critical Controls have been verified;
 - whether the workplace is ready;
 - whether required supporting documentation is available; and
 - whether responsibilities and interfaces are understood.
- The Permit shall define sufficient information to establish:
 - the authorised work;
 - work location and boundaries;
 - validity period;
 - mandatory precautions and controls; and
 - relevant interfaces and supporting documents.
- The Permit Initiator and Acceptor shall confirm understanding of the Permit conditions before work commences.

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3.10 Permit Validity

- Each Permit shall have a defined validity period appropriate to the work, risk and operating conditions.
- Businesses shall establish maximum validity periods and requirements for extension and revalidation for each permit category. Higher-risk or rapidly changing work shall be subject to shorter validity periods or more frequent revalidation where necessary.
- A Permit shall not be extended merely because the work remains incomplete.

3.11 Pre-Job Briefing (Toolbox Talk)

- Before work commences, a documented pre-job briefing shall be undertaken.
- The briefing shall include:
 - work scope;
 - hazards;
 - Controls/Critical Controls;
 - isolations;
 - emergency arrangements;
 - stop-work expectations;
 - communication methods;
 - simultaneous operations (SIMOPS).
- Every member of the work party shall participate.

3.12 Work Execution

- Work shall only be undertaken within the authorised scope and conditions.
- Permit conditions and applicable Critical Controls shall remain effective throughout execution.
- The Permit and associated information shall remain available to those responsible for the work for the duration of the authorised activity.
- The Performing Authority shall maintain supervision appropriate to the complexity and risk of the work.

3.12.1 Temporary Energization

- Where equipment of systems is required to be temporarily energized for testing, commissioning, fault finding, or other defined purposes before work is complete, the PTW Management System shall require a controlled temporary energization process. The process shall define the scope and purpose of energization, affected isolations, responsibilities, work boundaries, required precautions and conditions for de-energization and recommencement of work.
- All temporary energization requirements shall be documented prior to taking the temporary energization.
- **Temporary energization shall not be taken on verbal instructions.**

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3.12.2 Special Operating Conditions

- Where a site is undertaking activities that materially increase the volume, complexity or interaction of work – including major projects, shutdowns, turnarounds, commissioning, decommissioning or major construction – the Business shall establish **additional arrangements to maintain effective Operational Work Control**.
- These arrangements shall address, as applicable:
 - planning of the work;
 - coordination and prioritization of simultaneous work;
 - integration of Permits and work packages (Integrated Work Package);
 - management of isolations and changes in plant status;
 - interfaces between Operations, Projects, contractors, and other work groups;
 - shift change-over and transfer of operational responsibility;
 - control of temporary conditions and changing work boundaries;
 - escalation and decision-making where work interfaces create uncertainty or conflict; and
 - assurance that the PTW system remains effective
- The fundamental requirements and principles of this Standard shall continue to apply. Additional arrangements shall strengthen, and shall not dilute, those requirements.

3.13 Maintaining Operational Control

- Operational control shall be maintained throughout execution.
- Work shall remain within the authorised scope and conditions.
- Where work, method or conditions change, the change shall be assessed to determine whether it affects the basis on which the work was authorised.
- Where operational control cannot be demonstrated or maintained, work shall stop until the appropriate decision has been made.
- A change does not automatically require a new Permit. The response shall be determined by whether the change affects the original operational decision and the controls supporting it.

3.13.1 Formal Shift handover Process

- **Where responsibility for authorised work transfers between shifts, a formal shift handover shall be completed before the incoming shift assumes control of the work.**
- The **handover shall** ensure that the incoming responsible persons understand, as applicable:
 - the current status of the work;
 - the authorised scope and work boundaries;
 - the status of Critical Controls and isolations;
 - outstanding hazards, restrictions and conditions;
 - changes that have occurred during the previous shift;
 - work that remains incomplete; and

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- any conditions requiring work to stop or be escalated.
- **The incoming responsible persons shall confirm that the basis on which the work was authorised remains valid before work continues.**
- Where the shift change affects operational control or the basis of the original authorisation, the Permit and relevant parts of the Integrated Work Package shall be revalidated or revised before work continues.

3.13.2 Suspension and Revalidation

- Work shall be suspended where:
 - Permit conditions cannot be maintained;
 - applicable controls/Critical Controls fail or cannot be demonstrated;
 - an emergency affects operational control;
 - significant changes occur that may affect the basis of authorisation; or
 - required operational control cannot otherwise be maintained.
- Suspended work shall not recommence until the relevant conditions have been reviewed and the work has been appropriately revalidated or reauthorised.

3.13.3 Stop Work Authority:

Every person shall be empowered to:

- Stop work whenever safe operational control cannot be maintained;
- Immediately report the circumstances requiring the work to be stopped.
- ✓ No person shall be subjected to reprisal or adverse consequences for exercising Stop Work Authority in good faith.
- ✓ Work shall only recommence after the conditions have been reassessed and authorisation has been granted in accordance with the Permit to Work process.

3.14 Managing Change

- Where the work, method or conditions change, the change shall be assessed before work continues where it may affect the basis of the original operational decision.
- The assessment shall determine whether:
 - the existing authorisation remains valid;
 - affected controls/Critical Controls remain effective;
 - supporting documents remain applicable;
 - the work remains within the authorised scope; and
 - additional controls, review, revalidation or authorisation are required.
- Where the basis for the original authorisation is no longer valid, work shall not continue until the required reassessment and authorisation have been completed.

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- A new Permit shall be issued where the existing authorisation can no longer safely support the revised work.
- A change that is permanent in nature, or that affects the design basis of plant or process, shall be referred to the Business Management of Change process in accordance with clause 3.6.2 and shall not be authorised solely through the Permit.

3.14.1 Weather and Environmental Suspension Triggers

- Each Business Unit shall define environmental conditions that require automatic suspension of specified categories of hazardous work, including, at a minimum:
 - lightning within a Business Unit-defined range, for work at height, lifting operations and work involving flammable atmospheres;
 - wind speed thresholds for lifting operations and work at height; and
 - flooding, heavy rain or other conditions that could affect excavation stability, confined space atmosphere, or access and egress.
- Work suspended under this clause shall be managed in accordance with clause 3.13.2

3.15 Work Completion and Restoration of plant before Close-out

- Work shall not be considered complete until the workplace has been **restored to a safe operational condition**.
- A Permit shall remain active until:
 - authorised work has been completed;
 - temporary equipment, tools and materials have been removed as required;
 - housekeeping has been completed;
 - plant and safeguards have been safely reinstated; and
 - the workplace is ready to be returned to Operations.
- Operational responsibility shall be formally returned to the Area Authority before Permit closure.
- Permit records shall be completed and retained in accordance with Business Unit requirements.

3.16 Learn and Improve

- Lessons from incidents, audits, workplace observations, assurance activities and operational experience shall be used to improve the PTW Management System.
- Learning shall focus not only on individual failures but also on recurring organisational conditions that affect the ability to maintain operational control.

3.17 Assurance

- Each Business Unit shall establish a **documented assurance programme** for its PTW Management System, explicitly stating the frequency of the assurance programme
- The assurance programme shall evaluate both:

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- implementation of this Standard; and
- effectiveness of Operational Work Control.
- The programme shall include appropriate combinations of:
 - workplace verification;
 - Permit and IWP reviews;
 - competency assurance;
 - audits;
 - management review;
 - incident and learning reviews; and
 - analysis of recurring organisational patterns.
- Assurance shall not be limited to documentation compliance.
- Where documentation and workplace conditions differ, the actual workplace condition shall be treated as the more important evidence of operational control.
- Findings and learning from assurance activities shall be used to improve the PTW Management System.

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4. ROLES, RESPONSIBILITIES AND ACCOUNTABILITY

4.1 General

- Operational Work Control is a shared responsibility.
- Each Business Unit shall define and document the roles, responsibilities, authorities and interfaces required to implement this Standard.
- Decision-making authority shall be assigned only to competent and authorised persons.
- Detailed decision matrices, RACI arrangements and practical role guidance shall be established by the Business Unit in accordance with this Standard and GN48.

4.2 Operational Accountability

- Operational accountability for the workplace shall remain with Operations throughout the work.
- The issuing of a Permit shall not transfer accountability for the workplace from Operations to HSE, Maintenance, a contractor or any other function.

4.3 Area Authority/Custodian

- The Area Authority/Custodian shall be accountable for operational control of the workplace.
- The Area Authority/Custodian shall:
 - confirm workplace readiness;
 - release the workplace for authorised work;
 - manage operational interfaces;
 - maintain awareness of relevant operational conditions;
 - suspend work where operational control cannot be maintained; and
 - accept the workplace following completion.

4.4 Permit Issuer or Permit Issuing Authority

- The Issuer shall possess relevant operational experience, be trained and competent in PTW processes and procedures, and have adequate knowledge of the associated equipment, processes, hazards, and safety requirements.
- The Permit Issuer or Permit Issuing Authority shall be accountable for the decision to authorise hazardous work.
- The Permit Issuer or Permit Issuing Authority shall confirm, as applicable, that:
 - work planning is complete;
 - the risk assessment is suitable;
 - applicable Critical Controls have been verified;
 - required supporting documentation is available;
 - the workplace is ready; and
 - the Permit Initiator and Acceptor understands the Permit conditions.

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- A Permit Issuer or Permit Issuing Authority should visit the workplace before authorising high-risk work.
- The Permit Issuer or Permit Issuing Authority shall not authorise work where the conditions required for safe execution cannot be demonstrated.

4.5 Permit Initiator and Acceptor

- Permit Initiator and Acceptor shall possess relevant technical qualifications, be trained and competent in the PTW system, have successfully completed the PTW competency assessment.
- The Permit Initiator and Acceptor shall:
 - understand the authorised work;
 - accept the Permit conditions;
 - communicate relevant Permit conditions to the work party;
 - ensure the work remains within the authorised scope;
 - notify the appropriate authority of changes affecting the authorised work; and
 - stop work where operational control cannot be maintained.

4.6 Authorized Isolator or Isolation officer

- Authorised Isolators shall be appointed separately for relevant disciplines, including Electrical, Mechanical, Instrumentation, Process, and Pneumatic systems, based on their technical competency and area of responsibility.
- The Authorised Isolator is responsible for implementing, verifying, and maintaining energy isolations in accordance with approved procedures and Permit to Work (PTW) requirements.
- Where applicable, the Isolation officer shall:
 - establish required isolations;
 - verify effectiveness of isolations;
 - maintain isolation integrity;
 - restore following completion.
- Detailed isolation requirements are governed by the Vedanta Isolation Safety Standard.

4.7 Gas Tester

- Where atmospheric testing is required, the Gas Tester shall:
 - conduct testing using approved equipment;
 - verify equipment calibration;
 - communicate results;
 - repeat testing where required;
 - suspend work if unacceptable conditions are detected.

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4.8 Fire Watch

- Where Hot Work requires a Fire Watch, that person shall:
 - continuously monitor the work area;
 - identify signs of ignition;
 - initiate emergency response where required;
 - remain in attendance for the period specified by the Permit.

4.9 Work Party

- Every member of the work party shall:
 - understand the work being undertaken;
 - comply with applicable Permit conditions and controls;
 - remain within the authorised work scope;
 - report changes or unsafe conditions;
 - challenge conditions that could affect operational control; and
 - exercise Stop Work Authority where necessary.

4.10 HSE Function

- The HSE Function shall:
 - establish Group governance requirements;
 - provide technical support;
 - monitor PTW performance;
 - conduct or support assurance activities;
 - support competency development; and
 - facilitate continual improvement.
- The HSE Function **shall not authorise any hazardous work**.
- The HSE Function **shall not assume operational accountability for work controlled under this Standard**.

4.11 Business Unit Leadership

- Business Unit Leadership shall ensure that:
 - adequate resources are available to implement the PTW Management System;
 - competent decision authorities are appointed;
 - roles and authorities are clearly defined;
 - assurance findings are addressed;
 - material weaknesses in Operational Work Control receive appropriate attention; and
 - PTW system performance and effectiveness are periodically reviewed.

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5. GOVERNANCE AND CONTINUAL IMPROVEMENT

5.1 Governance

- Each Business Unit shall establish governance arrangements sufficient to ensure effective implementation of this Standard.
- Governance arrangements shall include:
 - clear accountability for the PTW Management System;
 - defined decision authorities;
 - competency requirements;
 - documented Business Unit procedures;
 - assurance arrangements;
 - management review; and
 - processes for addressing identified weaknesses.
- The Group HSES Function shall provide oversight of Group implementation and shall maintain this Standard.

5.2 Business/Business Unit Procedures

- Each Business Unit shall establish documented procedures necessary to implement this Standard.
- Business/Business Unit procedures shall define, as applicable:
 - work requiring Permit;
 - Permit categories and interfaces;
 - local roles and authorities;
 - competency requirements;
 - Permit processes and formats;
 - change and revalidation arrangements;
 - supporting documentation;
 - record retention;
 - digital system requirements; and
 - assurance arrangements.
- Business/Business Unit procedures shall not reduce the minimum requirements of this Standard.

5.3 Implementation Guidance

- GN48 – Operational Work Control provides guidance for implementing this Standard.
- GN48 may include:
 - explanation of the intent of this Standard;
 - practical guidance for each PTW role;
 - Operational Work Control decision gates;
 - guidance for Integrated Work Packages;

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- Permit quality guidance;
- Critical Control verification guidance;
- change-management guidance;
- leadership and HSE assurance guidance;
- worked examples;
- decision trees; and
- field reference tools.
- GN48 shall not introduce mandatory requirements beyond those established in this Standard.

5.4 Operational Tools

- The PTW Playbook and applicable Field Checklists may provide practical tools to support implementation, including:
 - Work and Permit selection;
 - Integrated work package;
 - Operational decision gates;
 - Role and Decision authority matrix;
 - Shift changeover;
 - Change and revalidation;
 - Completion and closeout;
 - Assurance and learning
- These tools shall support, and not replace, operational judgement.

5.5 Records

- Business Units shall retain records demonstrating implementation of this Standard.
- Records shall be:
 - complete;
 - legible;
 - traceable;
 - secure;
 - retrievable; and
 - protected against unauthorised modification.
- Paper and electronic records are acceptable provided they meet these requirements.
- The Business Unit shall retain sufficient records to demonstrate that hazardous work was appropriately planned, authorised, controlled and completed.
- Records of competency assessments, training, and authorisations shall be maintained in accordance with Business Unit requirements.

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5.6 Continual Improvement

- Business shall periodically review the effectiveness of their PTW Management Systems.
- Improvement shall consider:
 - assurance findings;
 - incidents and near misses;
 - workplace observations;
 - operational experience;
 - recurring organisational patterns;
 - changes in technology;
 - changes in risk;
 - legal and regulatory requirements; and
 - learning from other Vedanta Businesses and external good practice.
- Improvement shall focus on strengthening the organisation's ability to maintain operational control rather than simply increasing procedural or administrative compliance.

5.7 Review of this Standard

- The Group HSES Function shall review this Standard at intervals not exceeding three years, or earlier where significant operational, legislative, technological or organisational changes occur.
- The review shall consider:
 - implementation experience;
 - assurance findings;
 - technological developments;
 - legal and regulatory requirements;
 - industry good practice;
 - significant incidents and learning; and
 - feedback from Vedanta Businesses.

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6. BIBLIOGRAPHY AND REFERENCE FRAMEWORKS

This Standard has been benchmarked against, and draws on principles established in, the following international standards, industry guidance and good-practice references. These documents are provided for reference and benchmarking; they are not incorporated by reference and do not themselves create mandatory requirements under this Standard.

International Management System Standards

- International Organization for Standardization. ISO 45001:2018 – Occupational health and safety management systems — Requirements with guidance for use. Geneva: ISO, 2018.
- International Organization for Standardization. ISO 31000:2018 – Risk management — Guidelines. Geneva: ISO, 2018.

Mining and Metals Industry – Critical Control Management

- International Council on Mining and Metals (ICMM). Health and Safety Critical Control Management: Good Practice Guide. London: ICMM, April 2015.
- International Council on Mining and Metals (ICMM). Critical Control Management Implementation Guide. London: ICMM, 2018.
- International Council on Mining and Metals (ICMM). Health and Safety Performance Indicators. London: ICMM.

Permit to Work – Process and Petrochemical Industry Guidance

- Health and Safety Executive (HSE). HSG250 – Guidance on Permit-to-Work Systems: A Guide for the Petroleum, Chemical and Allied Industries.
- Health and Safety Executive (HSE). Safe Isolation of Plant and Equipment.

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APPENDIX A: MINIMUM INFORMATION REQUIREMENTS FOR PERMIT TO WORK SYSTEMS

A.1 Purpose

- This appendix establishes the minimum information that shall be captured by every Permit to Work (PTW) system implemented across Vedanta.
- The requirements apply equally to:
 - paper-based PTW systems;
 - electronic PTW systems;
 - integrated maintenance management systems; and
 - mobile PTW applications.
- Business Units may add information to meet local operational or legislative requirements but shall not omit the mandatory information defined in this appendix.

A.2 Information Principles

- Every PTW system shall provide sufficient information to demonstrate that:
 - the work has been planned;
 - hazards have been assessed;
 - Controls/Critical Controls have been verified;
 - competent persons have authorised the work;
 - operational control has been maintained;
 - the work has been safely completed.

A.3 Mandatory Information Requirements

- Every Permit shall contain, as a minimum, the following information.

Information Category	Minimum Requirement
Permit Identification	Unique permit number and status
Work Details	Description, location, plant/equipment, work boundaries
Work Planning	Work order/reference, Permit Initiator and Acceptor, work party
Risk Assessment	Reference to approved risk assessment/JSA and identified Critical Risks
Controls/Critical Controls	Required controls and evidence of verification

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Information Category	Minimum Requirement
Supporting Documents	References to gas tests, lift plans, rescue plans and other supporting records
Isolation	Reference to isolation certificate(s), where applicable
Authorisation	Permit Issuer or Permit Issuing Authority, Area Authority, Permit Acceptor, dates and times
Work Monitoring	Extensions, suspensions, revalidations and significant changes
Completion	Confirmation of work completion, workplace restoration and plant reinstatement
Audit Trail	Record of amendments, approvals and closure

A.4 Permit Status

- The PTW system shall identify the current status of every Permit.
- As a minimum, the following status values shall be available.

Status	Meaning
Draft	Under preparation
Active	Work authorised
Suspended	Work temporarily stopped
Revalidated	Re-authorised following review
Closed	Work completed and accepted
Cancelled	Withdrawn before completion

A.5 Traceability

- The PTW system shall maintain a complete record of:
 - issue;
 - amendments;

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- extensions;
- suspensions;
- revalidations;
- closure.
- Electronic systems, where present, shall maintain an immutable audit trail.
- For paper-based systems, traceability needs to be maintained for at least six months.

A.6 Data Quality

- Business Units shall ensure PTW information is:
 - accurate;
 - complete;
 - legible;
 - traceable;
 - secure; and
 - retrievable.

A.7 Digital PTW Requirements

- Where electronic PTW systems are implemented, they shall, as a minimum:
 - generate unique Permit numbers;
 - maintain version control;
 - record all approvals and amendments;
 - confirmation that Permit Issuer or Permit Issuing Authority has physically verified the workplace conditions before issuing the permit
 - prevent unauthorised modification of approved Permits;
 - maintain a secure audit trail;
 - retain historical records in accordance with Business Unit document retention requirements.