

Technical Standard – Cultural Heritage

Vedanta Resources Plc


Sustainability Governance System

Technical Standard
Cultural Heritage

Technical Standard – Cultural Heritage

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Authorised by:	Roma Balwani
Signature	
Position:	Head - Sustainable Development and Communication

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Technical Standard – Cultural Heritage

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Cultural Heritage Assessment	7
4.2.1. Cultural Heritage Feasibility Study	7
4.2.2. Desktop Study and Consultations	7
4.2.3. Baseline Survey	8
4.2.4. Risks and Impacts Identification Process	8
4.3. Cultural Heritage Management Plan	9
4.4. Chance Finds	10
4.5. Disclosure	11
5. ROLES AND RESPONSIBILITIES	12
6. COMPLIANCE AND PERFORMANCE	12
7. SUPPORTING INFORMATION	13
8. REVIEW	14
9. RELATED DOCUMENTATION	14

Technical Standard – Cultural Heritage

1. INTRODUCTION

The purpose of this Technical Standard is to establish the programme design, risk management controls and supporting information, to ensure the preservation and protection of cultural heritage by avoiding, reducing, and in some cases compensating the adverse impacts that projects might cause to cultural heritage.

2. SCOPE

The guidance in this Technical Standard is mandatory and applies to all Vedanta operations and managed sites. The Standard applies to all new projects and is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Chance Find	A previously unknown tangible cultural heritage resource encountered during any part of a project lifecycle. Most commonly these are archaeological sites found during construction or surface clearing.
Critical Cultural Heritage	Consists of (i) the internationally recognized heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes; and (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation.
Cultural Heritage	Tangible or in some cases intangible culture that represents the past history or surviving beliefs or knowledge of traditional peoples. This Technical Standard employs the definitions applied by the IFC Performance Standard 8 for Cultural Heritage. Additional related guidance can be found in the accompanying Guidance Notes for Performance Standard 8.
Cultural Heritage Management Plan (CHMP)	A Cultural Heritage Management Plan (CHMP) is a comprehensive document that describes management measures, including reporting requirements, that are in place in a project or facility to address the specific cultural heritage protection needs that have been identified according to the requirements of this Cultural Heritage Technical Standard. The CHMP will be a part of the project or facility's Environmental and Social Management Plan.
ICMM (International Council on Mining and	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement

Technical Standard – Cultural Heritage

Term	Definition
Metals)	through its members which comprise 20 mining and metals companies as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Intangible cultural heritage	Intangible forms of cultural heritage include cultural resources, knowledge, innovations, and/or practices of indigenous or local communities embodying traditional lifestyles. These are of concern only if the project intends to use the cultural heritage – such as using cultural resources, knowledge, innovation and/or practices such as using traditional techniques or practices - for commercial development ¹ .
Lifecycle	The phases of a Vedanta mining project including exploration and planning, evaluation, operation and closure.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Replicable Cultural Heritage	Archaeological or historical sites can be considered replicable if the particular eras, cultural values, or scientific information they represent or contain are well represented by similar sites or structures.
Non-Replicable Cultural Heritage	Tangible forms of cultural heritage related to past or present peoples that are unique or relatively unique for the period they represent or are unique or relatively unique in linking several periods in the same site.
Stakeholders (cultural heritage)	In the context of cultural heritage, stakeholders may include: historical or traditional users and owners of heritage; indigenous peoples; traditional communities embodying traditional lifestyles; ministries of archaeology, culture or similar national or heritage institutions; national and local museums; cultural institutes and universities, and civil society concerned with the cultural heritage or historical preservation, areas of environmental or scientific or environmental interest, affected indigenous peoples, and religious groups for whom the cultural heritage is traditionally sacred.
Tangible cultural heritage	Tangible cultural heritage is a unique and non-renewable resource that possesses cultural, scientific, spiritual, or religious value and

¹ This Technical Standard does not include Paragraph 16 of PS8, which addresses the equitable sharing of benefits from the use of cultural heritage. This is because Vedanta does not use cultural in its business activities.

Technical Standard – Cultural Heritage

Term	Definition
	includes moveable or immovable objects, sites, structures, groups of structures, marked and unmarked grave sites, natural features, or landscapes that have archaeological, paleontological, historical, architectural, artistic, religious, aesthetic, or other cultural value. These also include natural features that embody cultural values, such as sacred groves, rocks, lakes, springs and waterfalls.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)

4. PROGRAMME REQUIREMENTS

All Vedanta subsidiary companies and operations are required to follow the requirements listed below with regards to the mechanisms for identifying, evaluating, preserving and protecting cultural heritage that may be impacted by a proposed Vedanta activity or operation.

4.1. General Requirements

- a) All Vedanta operations shall create, implement and maintain arrangements to perform an international standard cultural heritage impact assessment (as part of a wider ESIA) for every potential new project and expansion of existing operations, and as part of business decision-making.
- b) Vedanta shall strive at every stage from project screening through to execution to protect tangible and intangible cultural heritage from the potential adverse impacts of its activities and to support its preservation.
- c) Project planning and engineering staff shall be fully consulted regarding all baseline assessments as their plans and knowledge regarding project design will provide critical input for the survey process.
- d) Appropriate government agencies (Ministry of Culture, National Museum etc.) shall be informed at the start of cultural heritage surveys in order to gain access to government heritage archives and to understand government protection standards, priorities and survey requirements. In some cases survey may require interviews with knowledgeable local people. In the case that project confidentiality is a concern, initial surveys can be done without consultation, recognizing that in no situation can invasive survey work, such as archaeological testing be performed without formal government permission.
- e) Prior to commissioning a cultural heritage survey Vedanta shall identify all formal permitting requirements that may exist and shall ensure that all necessary arrangements are put in place to obtain a permit and to ensure compliance with this permit.

Technical Standard – Cultural Heritage

- f) Vedanta shall ensure that both the surveys and the individuals performing such studies meet any specific requirements imposed by the national heritage authority and any relevant international standards as may exist.

4.2. Cultural Heritage Assessment

- a) The scope of the assessment will depend on the nature and scale of the project and sensitivities in terms of cultural heritage but in any case shall include:
 - Cultural heritage feasibility study
 - Desktop study and consultations;
 - Baseline survey;
 - Impact assessment;
 - Reporting, and
 - Development and implementation of a cultural heritage management plan.

4.2.1. Cultural Heritage Feasibility Study

- a) It is good practice to identify any potential cultural heritage issues before the start of the ESIA where possible to identify any issues of significant concern such as project cost and design constraints that may present limitations for the ongoing feasibility of the project.

4.2.2. Desktop Study and Consultations

- a) A desktop study shall be undertaken once the decision has been made that the project is feasible and will be undertaken to identify existing known and potential undiscovered cultural heritage.
- b) Vedanta shall ensure that the desktop survey considers the following:
 - Literature review – the extent will depend on the sensitivity of the cultural heritage associated with the project's area of influence that may be impacted. The review shall consider a variety of sources including national heritage archives, published journals, existing assessments and studies in the project site and its area of influence, web-based information, protected area management plans.
 - Initial desktop analysis – includes consideration of existing spatial data and landscape mapping particularly for critical cultural heritage. The analysis shall consider satellite imagery or aerial photographs, topographical mapping, protected area maps.
- c) Vedanta shall make the necessary arrangements for undertaking direct engagement with stakeholders including Affected Communities. This may involve the appointment of social

Technical Standard – Cultural Heritage

and other specialists. As cultural heritage is not always documented or protected by law, this engagement may be critical for identifying it, documenting its presence and significance, assessing potential impacts to it, and exploring mitigation options. Stakeholder engagement shall be planned and managed in accordance with the *Stakeholder Engagement Technical Standard*.

4.2.3. Baseline Survey

- a) A baseline cultural heritage survey shall be undertaken during the project screening phase for all new potential projects to collect data on current (i.e. pre-development) cultural heritage attributes as this information may determine whether or not a proposed project should go ahead to the planning and development phases.
- b) The survey may involve multi-phased desktop and field investigations where follow-up work is required to the information provided by earlier phases of investigation.
- c) The survey shall record sufficient details of tangible cultural heritage of all forms (e.g. archaeological sites, monuments etc.) and of all ages and cultural affiliations, recognising that differing cultural heritage types may have different stakeholders, e.g. scientific and traditional, national and local.

4.2.4. Risks and Impacts Identification Process

- a) The risks and impacts identification process will adopt the same form as that for the overarching ESIA process and reference shall be made to the *Conducting ESIA to International Standards Technical Standard*.
- b) Vedanta shall strive to ensure at every stage from project screening through to execution that the potential impacts to cultural heritage are avoided.
- c) Where avoidance is not possible, and because cultural heritage is non-renewable, Vedanta shall strive to adopt 'preservation-in-place' over removal.
- d) The impact avoidance and reduction measures shall be included in the Cultural Heritage Management Plan and shall be reviewed and updated regularly as Vedanta progresses through the project phases.
- e) The following cultural heritage risks and impacts shall be considered:
 - Cultural heritage baseline conditions in the project's area of influence including the presence of critical cultural heritage as well as the distinction between replicable and non-replica cultural heritage;
 - An analysis of project alternatives in relation to the baseline conditions to determine potential impacts;
 - Project-related short and long term, direct, indirect and residual impacts on the cultural heritage identified in the literature review and baseline studies;

Technical Standard – Cultural Heritage

- The range of relevant threats to cultural heritage;
 - Proposed impact mitigation measures in accordance with the mitigation hierarchy as described in the *Conducting ESIA's to International Standards Technical Standard*.
- f) The scoping of the risks and impacts identification process is a continuous process and is intended to be so that it can be changed to reflect the changing needs of the project and as a result of new information becoming available.

4.3. Cultural Heritage Management Plan

- a) A Cultural Heritage Management Plan (CHMP) shall be prepared that details the impact management arrangements (where impact cannot be avoided), an action plan for implementing the protection and preservation arrangements and any necessary monitoring requirements.
- b) The CHMP will be developed in consultation with the appropriate government agency(s) or national heritage authority and stakeholders from affected communities to ensure their views and concerns are adequately addressed;
- c) The CHMP shall detail the arrangements for the periodic internal and external reporting (as required) of the impact management activities.
- d) The CHMP shall be integrated into the Company or Project Environmental and Social Management Plan.
- e) Compliance with the CHMP and the development of additional sub-plans and procedures shall be a project commitment of Vedanta, its contractors and their subcontractors.
- f) Impact reduction measures for replicable cultural heritage shall be considered in the following order of priority: avoidance through changes to the project design; preservation in place; introduction of special construction and operational procedures to minimize impacts; and compensatory mitigation measures (such as rehabilitation and restoration of cultural heritage if possible where disturbance has occurred).
- g) Impact reduction measures for non-replicable cultural heritage shall be considered in the following order of priority: avoidance through changes to the project design and preservation in place. Vedanta shall not impact or remove any non-replicable cultural heritage unless: there are no technically or financially feasible alternatives; the overall positive impacts of the project outweigh the negative impacts resulting from removal or impact; removal or mitigation methods are developed in consultation with stakeholders to ensure the best available technique(s) is used.
- h) Vedanta will not impact or remove, significantly alter, or damage critical cultural heritage. However, in exceptional cases where all other financial or technical alternatives are not feasible, Vedanta will use a process of Informed Consultation and Participation as outlined in

Technical Standard – Cultural Heritage

- the IFC Performance Standards² to engage affected stakeholders and incorporate their views into the decision-making process.
- i) Opportunities to promote and enhance the conservation of cultural heritage of a protected area shall be considered as appropriate.
 - j) Vedanta shall ensure that the CHMP contains suitable arrangements for dealing effectively with chance finds (refer to 4.7 below).
 - k) If the project has the potential to restrict or prevent community access to a cultural heritage site(s), the CHMP will contain a plan for ensuring continued stakeholder access or provide an alternative access route to the site(s) throughout the project lifecycle.
 - l) The action plan for the protection and preservation arrangements shall include the following:
 - Definition of the agreed goal(s), objectives and targets;
 - Costs of the various protection arrangements;
 - Description of the required actions; completion indicators; responsibilities and accountabilities, and
 - Monitoring timeframes and mechanisms.
 - m) The monitoring arrangements shall consider the following:
 - Mechanisms for monitoring the effectiveness of management actions,
 - Maintenance and monitoring of specific controls such as preservation activity, and
 - Arrangements for adapting management and mitigation responses as necessary to accommodate changes.
 - n) The plan shall be a project specific and practical document that forms the basic guidance for implementing this Technical Standard in the context of a particular project or operational unit that is owned or operated by Vedanta.

4.4 Chance Finds

- a) Vedanta shall ensure that a project-specific procedure is prepared and implemented that details the actions to take in the event that a previously unknown cultural heritage resource is identified at any time during the project from exploration through to construction, operation and closure.
- b) The 'Chance Find' procedure shall include the following provisions:

² Details of the Informed Consultation and Participation process can be found in paragraph 31 of Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts in the "IFC Performance Standards on Environmental and Social Sustainability."

Technical Standard – Cultural Heritage

- contracting appropriate expert staff or contractors to direct and oversee the procedure;
- staff induction and refresher training in the recognition of cultural heritage;
- roles and responsibilities of project staff;
- prohibition of the personal removal or use of artefacts encountered by project operations, including chance finds;
- provisions and protocols for stopping work in the area of a potential chance find and temporarily restricting access to the area around the find until it is assessed by a competent professional;
- specific technical criteria for stopping work based on the type of chance finds encountered;
- response times required from both project staff, and any relevant heritage authority;
- agreed consultation procedure;
- record keeping process;
- procedure and criteria for confirmation and evaluation of finds;
- chain of custody instructions for movable finds; and
- consideration of alternative siting or design of the project.

4.5 Disclosure

- a) The information gathered during each stage of the assessment as well as the CHMP can be directly included in the ESIA and any related assessments or can be captured in a standalone report that is appended to the ESIA disclosure report. The most appropriate reporting style is project-specific and a decision shall be made on the basis of the particular project requirements.
- b) Reporting considerations included in *Conducting ESIA to International Standards Technical Standard* shall be referred to.
- c) It should be noted that many countries prohibit the public disclosure of the locations of archaeological sites as protection against looting and unauthorized excavation. This restriction only applies to the locations of sites not the existence and detailed characteristics of a site. However where such disclosure would jeopardize the safety or integrity of the physical cultural resources involved sensitive information relating to these particular aspects shall be omitted from the Assessment's public documentation.

Technical Standard – Cultural Heritage

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- A cultural heritage assessment is undertaken as part of the overarching ESIA for all potential projects.
- A Cultural Heritage Management Plan is prepared and implemented for every project.
- Stakeholder engagement must be included as an essential component of the assessment and involves Affected Communities where they exist within the project area.
- The competence and credibility of all specialists (internal and external) that contribute to the cultural heritage assessments and impacts management must be able to present evidence (such as training, certification, etc) to demonstrate this.
- The data and findings of the impact assessment and management plan must be disclosed formally either as standalone reports or within the ESIA disclosure report and in a manner and form that is accessible to all stakeholders.
- Clear and transparent evidence of the adoption of the mitigation hierarchy must be available to support the proposed impacts management arrangements.
- All management and monitoring arrangements must be actively maintained and implemented and documentary evidence kept to demonstrate this.

Technical Standard – Cultural Heritage

7. SUPPORTING INFORMATION

Reference	Description
World Heritage List (from the Convention Concerning the Protection of the World Cultural and Natural Heritage)	List forming part of the cultural and natural heritage which the World Heritage Committee considers as having outstanding universal value. http://whc.unesco.org/pg.cfm?cid=31
Convention on the Safeguarding of Intangible Cultural Heritage (UNESCO, 2003)	Ensures the safeguarding of international cultural heritage and to strengthen solidarity and cooperation at regional and international levels in this field. http://unesdoc.unesco.org/images/0013/001325/132540e.pdf
Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO, 1972)	Establishes a system of collective identification, protection, and preservation of cultural and natural heritage and to provide both emergency and long-term protection for cultural and natural heritage. http://whc.unesco.org/world_he.htm
World Bank - Cultural Heritage Country Files	These are data files now in place with the World Bank. They contain valuable information for clients who are in the initial phases of project development and are concerned with possible heritage issues and constraints in the host country. The files contain existing, readily available technical and contact information, and a checklist of additional information that should be obtained.
ICMM (International Council of Mining and Metals)	The ICMM has recently produced and published a good practice guidance document 'Indigenous Peoples and Mining' which whilst it is written for indigenous peoples and therefore may not be relevant to all projects, contains useful guidance and references to cultural heritage. The ICMM has also produced many other best practice documents on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
International Finance Corporation Performance Standards Guidance Notes	The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions are available however these have not yet been finalised and formally published. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards

Technical Standard – Cultural Heritage

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
TS 05	Stakeholder Engagement
TS 08	Conducting ESIA's to International Standards

Technical Standard – Employee Consultation and Participation

Vedanta Resources Plc


Sustainability Governance System

**Technical Standard
Employee Consultation and Participation**

Technical Standard – Employee Consultation and Participation

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Authorised by:	A Thirunavukkarasu
Signature	
Position:	President of Human Resources

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Technical Standard – Employee Consultation and Participation

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. Mechanisms for Communication and Participation	6
4.2. Workers’ Organisations and Workers’ Organisations Representatives	7
4.3. Nominated Worker Representatives	7
4.4. Facilities for Worker Representatives	8
4.5. Arrangements to Identify and Remove Barriers to Communication and Consultation	8
4.6. Management System Information	8
4.7. Grievance Mechanism	9
5. ROLES AND RESPONSIBILITIES	9
6. COMPLIANCE AND PERFORMANCE	9
7. SUPPORTING INFORMATION	10
8. REVIEW	10
9. RELATED DOCUMENTATION	10

Technical Standard – Employee Consultation and Participation

1. INTRODUCTION

The purpose of this Technical Standard is to establish the programme design, risk management controls and supporting information, to ensure the consultation and participation of employees associated with sustainability matters. Arrangements for other persons (including contractors) are included in the *Stakeholder Engagement* Technical Standard TS05.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees. This Standard is applicable to the entire operational lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Collective Bargaining	Consists of discussions and negotiations between employers and representatives of workers' organisations for the purpose of determining working conditions and terms of employment by joint agreement. It also includes the implementation and administration of any agreements that may result from collective bargaining and the resolution of other issues that arise in the employment relationship with respect to workers represented by the workers' organisation.
Communication (in relation to management and employees)	Dialogue between management and employees. Communication is exchanging (giving and receiving) information. Communication enables Vedanta to learn about employees' needs, opinions and concerns and also allows employees to learn about the plans, goals, priorities and management activities of Vedanta.
Consultation	Consultation is not the same as communication; although both are two-way processes. Consultation is more purposeful and deliberately seeks input from its employees (as key stakeholders) in order to shape relations and the development of programmes. It involves the business, key individuals, organisations and groups affected by or interested in the development and outcomes of the issue/process being discussed. The aim is to ensure mutual understanding and for all parties to be able to manage decisions that have a potential to affect all concerned. A good consultation process needs to be supported by a strong communication programme.
Employee	An individual who is engaged to work directly for Vedanta on either a part-time or full-time basis and for a fixed period or on permanent basis and is salaried. By virtue of the individual's contract of employment, the employee is obliged to adhere to Vedanta's terms

Technical Standard – Employee Consultation and Participation

Term	Definition
	and conditions of employment (specific to Group or the subsidiary employing the individual), and is protected by national (where it exists) and international laws concerning labour and working conditions.
Employee Consultation Committee	A committee that includes management and employee representatives and meets on a regular basis to discuss employee health and safety issues and concerns along with broader labour and working conditions and sustainability considerations. The creation of this Committee may be a legal requirement, but in the absence of such a requirement, it will be established in line with best practice.
Employee Engagement	Includes a variety of mechanisms and processes to promote transparent, accountable, positive, and mutually beneficial working relationships between management and employees. Such mechanisms and processes include information disclosure, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other management functions. It would also include the employees' involvement in continuous improvement projects and events.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
ILO (International Labour Organisation)	International organisation responsible for drawing up and overseeing international labour standards. It is a 'tripartite' United Nations agency that brings together representatives of governments, employers and workers to jointly shape policies and programmes promoting decent labour and working conditions.
Nominated Workers Representative	An workers who is selected by fellow workers who are not members of a Workers' Organisation, to represent them and their concerns regarding labour and working conditions in discussions with their employer
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.

Technical Standard – Employee Consultation and Participation

Term	Definition
Records of communication / consultation	Records of communication / consultation may include key e-mails, letters, newsletters, memorandums, complaints, opportunities for improvement, records of distribution/attendance, records of formal and informal meetings and records of commitments.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Workers' Organisation	Any organisation of workers for the purpose of furthering and defending the interests of workers with regard to working conditions and terms of employment. They are typically referred to typically as trade unions or labour unions.
Workers' Organisation Representative	An individual who is a member of a Workers' Organisation and who is selected to represent them in discussions with their employer.
Working Conditions	Refers to conditions in the workplace and treatment of employees.. Conditions in the workplace include the physical environment, health and safety precautions, and access to sanitary facilities. Treatment of employees includes disciplinary practices, reasons and process for termination of employees and respect for the employee's personal dignity (such as avoiding physical punishment or abusive language (IFC Performance Standard Guidance Note 2)).

4. PROGRAMME REQUIREMENTS

All Vedanta subsidiary companies and operations are required to follow the requirements described below with regards to the mechanisms for promoting and enabling workforce consultation and participation with respect to labour and working conditions and broader sustainability issues.

4.1. Mechanisms for Communication and Participation

The following arrangements shall be maintained by all Vedanta operations to encourage and promote internal communication and employee participation in sustainability management.

- a) Practising of an open door policy by all managers, which encourages employees to approach and communicate with their leaders.
- b) Inclusion of sustainability as a fixed agenda item on the agenda of all internal meetings to encourage discussion and participation.
- c) In many countries there is a legal requirement for the employer to create a committee for employee health and safety which includes management and employee representation. In such cases, Vedanta shall ensure that a committee is created and actively attended. Broader sustainability issues shall also be included in the standard meeting agenda. In the absence of such legal requirements, Vedanta shall adopt best practice and create a committee the

Technical Standard – Employee Consultation and Participation

purpose of which shall be to discuss a range of health, safety and sustainability issues. In both cases, the committee shall be referred to as the Employee Consultation Committee.

- d) Provision of training and awareness sessions that address a range of relevant sustainability considerations.
- e) Use of a range of means of communication of sustainability information including posters, memos and newsletters; notice boards; information portals; intranet, training and awareness sessions.
- f) Creation, implementation and maintenance of systems for collating and sharing sustainability and performance data, interacting with employees and monitoring and reviewing sustainability performance (e.g. auditing, inspections; sharing of performance reports, annual management system review, etc).

4.2. Workers' Organisations and Workers' Organisations Representatives

Where legal provisions exist for collective bargaining and freedom of association, and where the law is silent and no legal provisions or constraints exist, Vedanta companies shall create, implement and maintain arrangements that address the following provisions.

- a) Vedanta shall not interfere with workers' rights to form or join a workers' organisation.
- b) The right to be represented by a Workers' Organisation Representative shall be respected.
- c) To be given reasonable access to consult with their Workers' Organisation Representative on labour and working conditions and the Workers' Organisation Representatives shall be provided with reasonable access to the workers they represent.
- d) Where Workers' Organisation Representatives request in writing that a dedicated committee for labour and working conditions be formed within the workplace, Vedanta shall establish such a committee within three months of the request and ensure this requirement meets regulatory requirements on committee formation requests.
- e) Workers' Organisation Representatives shall be allocated adequate paid time to carry out their functions, and paid time as is necessary to undergo training in those functions, as is reasonable in the circumstances or legally required, and shall pay any reasonable costs to do with that training, including travel and subsistence costs.
- f) Vedanta may work with the Workers' Organisation Representatives on broader sustainability matters (beyond labour and working conditions matters) if appropriate.
- g) Vedanta shall not discriminate against workers belonging to a workers' organisation.

4.3. Nominated Worker Representatives

There may be situations where collective bargaining and workers' organisations do not exist. This may be due to: legislation that restricts or prohibits freedom of association and collective bargaining; collective bargaining agreements are permitted but have not been created; where they exist but do not cover all workers employed by Vedanta; or do not address labour and working conditions.

Technical Standard – Employee Consultation and Participation

In these situations, all Vedanta business units shall adopt the following measures to ensure that workers are consulted and able to participate in health, safety and broader sustainability matters of concern to them in their work including working conditions.

- a) Every Vedanta business unit shall establish and maintain arrangements for the collaborative selection by employees of colleagues who will represent them and their concerns in discussions with management and to provide feedback to those that they represent (i.e. Nominated Worker Representatives).
- b) Arrangements shall be made so that Nominated Worker Representatives receive the training they need to carry out their roles, as is reasonable in the circumstances, and shall pay any reasonable costs to do with that training, including travel and subsistence costs.
- c) All Nominated Representatives shall be given the paid time necessary to carry out their functions.

4.4. Facilities for Worker Representatives

- a) Vedanta shall provide appropriate facilities and assistance that the representatives may reasonably require to carry out their role.

4.5. Arrangements to Identify and Remove Barriers to Communication and Consultation

- a) An employee relations programme designed, implemented and maintained in consultation with employees to help ensure that pertinent sustainability information is disclosed and communicated to employees in a co-ordinated, transparent, inclusive, culturally appropriate, timely and respectful manner.
- b) The employee relations programme shall encourage two way communications.
- c) Vedanta shall ensure that employees are provided with clear and understandable information regarding their rights under national labour and employment law and any applicable collective agreements.
- d) Measures to allow for communication of information in multiple languages and in respect of cultural and social norms will be implemented where possible and needed.
- e) Employee representatives of a diverse range of nationalities and cultures shall be involved in communication and consultation initiatives.

4.6. Management System Information

- a) A Management Information System (MIS) shall be designed and implemented for the purpose of communicating the following information globally across the Vedanta business: significant and significant potential incidents; hazardous conditions and issues; best practices adopted by individual business units / sites.
- b) All sustainability personnel shall subscribe to the MIS to increase awareness of recent incidents, preventative actions and lessons learnt, and case studies and leading practices that may require sharing with their teams.

Technical Standard – Employee Consultation and Participation

- c) All leaders shall be encouraged to subscribe to the MIS so they are able to receive notification of items of interest that may require sharing with employees.

4.7. Grievance Mechanism

- a) A Grievance Mechanism shall be established to allow for ongoing opportunities to receive and facilitate resolution of concerns and grievances from employees. This is addressed in the *Grievance Mechanisms* Technical Standard TS04.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level and which meet the requirements as set out in the *Sustainability Data Management* Technical Standard TS21.

The evaluation of performance shall include, as a minimum, confirmation that:

- Sustainability is an agenda item on the agenda of relevant internal meetings to encourage discussion and participation.
- The right of every worker to be represented by a Workers' Organisation Representative is respected.
- Workers are given reasonable access to consult with their Workers' Organisation Representative on labour and working conditions and the Workers' Organisation Representatives is provided with reasonable access to the workers they represent.
- Employees are consulted and able to participate in health, safety and broader sustainability matters of concern to them in their work including working conditions.
- Facilities and assistance are provided to worker representatives to carry out their role.
- An employee relations programme has been designed, implemented and maintained in consultation with employees to ensure that pertinent sustainability information is disclosed and communicated to employees in a co-ordinated, transparent, inclusive, culturally appropriate, timely and respectful manner.

Technical Standard – Employee Consultation and Participation

- A Management Information System has been designed and implemented for the purpose of communicating information on significant and significant potential incidents; hazardous conditions and issues; best practices adopted by individual business units / sites.

7. SUPPORTING INFORMATION

Reference	Description
ILO (International Labour Organisation)	<p>The various conventions that have been ratified by the ILO are available on the website and provide useful information and guidance with respect to a range of labour and working conditions considerations including Freedom of Association and Protection of the Right to Organise, and Right to Organise and Collective Bargaining as well as protocols, lists of conventions implemented in different countries, and other information.</p> <p>http://www.ilo.org/global/lang--en/index.htm#a1</p>
IFC (International Finance Corporation) Performance Standard PS2	<p>Details the provisions for Labour and Working Conditions that must be implemented by any organisation required to adopt the IFC standards. The standards are also useful as best practice guidance. The guidance note accompanying PS2 provides helpful information and guidance on the implementation of the PS requirements.</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards</p>
World Bank Toolkit on Core Labor Standards	<p>General information on the ILO's four fundamental principles and rights at work. The Toolkit also provides links to other useful information sources.</p> <p>http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTSOCIALPROTECTION/EXTLM/0,,contentMDK:20224298~menuPK:584854~pagePK:148956~piPK:216618~theSitePK:390615,00.html</p>

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

Technical Standard – Employee Consultation and Participation

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
TS 04	Grievance Mechanisms
TS 05	Stakeholder Engagement
TS 21	Sustainability Data Management

Technical Standard – Land and Resettlement Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard


Land and Resettlement Management

Technical Standard – Land and Resettlement Management

Standard Title:	Land and Resettlement Management	Date of Revision	03/07/2014
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30/09/2011	1	Initial issue.
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Authorised by:	Roma Balwani
Signature	
Position:	Head - Sustainable Development and Communication

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Technical Standard – Land and Resettlement Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. Avoidance or minimising involuntary resettlement by exploring alternatives	6
4.2. Preference of land purchase over land expropriation	6
4.3. Regulatory and other requirements	7
4.4. Impact Assessment Studies and Resettlement Action Plans	7
4.5. Compensation Measures	7
4.6. Resettlement Support	8
4.7. Rehabilitation for livelihood restoration	8
4.8. Support to Vulnerable Groups	8
4.9. Community engagement	8
4.10. Grievance mechanisms	8
4.11. Institutional arrangement	9
4.12. Monitoring and evaluation	9
5. ROLES AND RESPONSIBILITIES	9
6. COMPLIANCE AND PERFORMANCE	9
7. SUPPORTING INFORMATION	10
8. REVIEW	10
9. RELATED DOCUMENTATION	10

Technical Standard – Land and Resettlement Management

1. INTRODUCTION

The purpose of this Technical Standard is to establish specific requirements related to land and resettlement management for the different business units of Vedanta and the process to be followed whilst handling land, resettlement and related issues. The requirements are in conformity with the Vedanta Social Policy and international standard requirements.

2. SCOPE

This Management Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure). This Technical Standard should be considered with reference to the *Vedanta Social Policy*.

3. DEFINITIONS

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

Term	Definition
ESIA	Environmental and Social Impact Assessment – a formalised process designed to identify, assess and document environmental and social impacts associated with a project, along with the mitigation measures and management arrangements for ensuring such measures are implemented.
Environmental and Social Management System	The structured framework that provides the arrangements for managing the environmental and social aspects throughout the lifetime of the project.
Full Replacement Cost	The replacement cost is the market value of the assets plus transaction costs e.g. for agricultural land, it is the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes. Full replacement cost applies to land, buildings and other assets displaced by project activities.
Grievance	A concern or complaint raised by any stakeholder either affected by or interested in company operations. Both concerns and complaints can result from either real or perceived impacts of a company's operations.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies as well as 30 national and regional mining associations

Technical Standard – Land and Resettlement Management

Term	Definition
	and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Impact Assessment	The stage in the ESIA development process in which the potential positive and negative impacts on the various environmental and social receptors identified during the baseline data collection phase are assessed to determine their significance.
Involuntary Resettlement	Resettlement is involuntary when it occurs without the informed consent of the displaced persons or if they give their consent without having the power to refuse resettlement.
Land Expropriation	Process whereby a public authority, usually in return for compensation, requires a person, household, or community to relinquish rights to land that it occupies or otherwise uses.
Livelihoods Restoration Plan	In cases of economic displacement only, a livelihood restoration plan (LRP) will be designed to compensate affected persons and/or communities and offer other assistance. The LRP will establish the entitlements of affected persons and/or communities.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Project Affected Household	All members of a household, whether related or not, operating as a single economic unit, who are affected by a project.
Project Affected Person	Any person who, as a result of the implementation of a project, loses the right to own, use, or otherwise benefit from a built structure, land (residential, agricultural, or pasture), annual or perennial crops and trees, or any other fixed or moveable asset, either in full or in part, permanently or temporarily.
Resettlement Action Plan	In the case of physical displacement, this document specifies the procedures the resettlement should follow, and the actions that will be taken to compensate affected people and communities. The plan will include measures to mitigate the negative impacts of the displacement; identify development opportunities; develop a resettlement budget and schedule; and establish the entitlements of all types of affected persons (including host communities). If economic displacement also occurs (resulting in loss of income or means of livelihood from project activities), the RAP will include a livelihoods restoration plan (LRP).
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities,

Technical Standard – Land and Resettlement Management

Term	Definition
	industry, governments and international third parties.
Stakeholder Engagement	<p>An umbrella term encompassing a range of activities and interactions between Vedanta and its stakeholders over the life of a project that are designated to promote transparent, accountable, positive, and mutually beneficial working relationships.</p> <p>Stakeholder engagement includes stakeholder identification and analysis, information disclosure, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.</p>
Vulnerable Groups	<p>Individuals or groups within the project area of influence who could experience adverse impacts more severely than others based on their vulnerable or disadvantaged status. This vulnerability may be due to an individual's or group's race, sex, language, religion, political, or other opinion, national or social origin, property, birth or other status. In addition other factors should be considered such as gender, ethnicity, culture, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources.</p>
Vedanta Company	<p>A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)</p>

4. PROGRAMME REQUIREMENTS

The requirements described below shall be followed by all Vedanta subsidiary companies and operations with regards to land and resettlement management.

4.1. Avoidance or minimising involuntary resettlement by exploring alternatives

Vedanta recognises that resettlement is associated with a range of adverse impacts for people and communities. Emphasis shall therefore be given to fulfilling Vedanta's commitment towards avoiding where possible and minimising where not, the negative impact of land take and resettlement. This is by adopting such project designs and location alternatives that reduce the number of people potentially affected, and also minimises the severity of potential impacts.

4.2. Preference for negotiated settlement over expropriation

To obtain land for their projects, all Vedanta's operations shall first explore the option of land purchase through negotiated settlement over land expropriation through Government agencies to considerably reduce the risks of significant adverse impacts and increased vulnerabilities. Negotiated settlement shall be based on 'willing buyer – willing seller' approaches and negotiated

Technical Standard – Land and Resettlement Management

amount would be equivalent to, or more than, the 'full replacement cost' of the acquired land, properties etc.

4.3. Regulatory and other requirements

Vedanta operations shall adhere to the local regulatory requirements of the countries wherein the project is developed and also meet the requirements of applicable international standards & guidelines regarding land and resettlement management aspects. Vedanta will identify the gaps between local laws and IFC standards and set out project-specific mechanisms to address any conflicts.

Where land acquisition and resettlement are the responsibility of the government, Vedanta will liaise with the government to achieve outcomes that are consistent with the IFC performance standards. Gaps identified between local laws, IFC and Vedanta's Technical Standard can be addressed in a supplemental action plan.

4.4. Impact Assessment Studies and Resettlement Action Plans

Vedanta's operations shall undertake project specific social impact assessment studies for projects categorised as Category 'A' or 'B' under the *IFC Performance Standard 1* and prepare a Resettlement Action Plan aligned with applicable national regulatory and policy framework as well as international standards. The IFC categorisation levels are as follows:

- **Category A project:** A project is classified as Category A if it is likely to have significant adverse impacts that are sensitive, diverse or unprecedented.
- **Category B project:** A project is classified as Category B if its potential impacts are less adverse than those of Category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for Category A projects.
- **Category C project:** A project is classified as Category C if it is likely to have minimal or no adverse impacts.
- **Category FI project:** A project is classified as Category FI if it involves investment of IFC funds, through a financial intermediary, in subprojects that may have adverse impacts. In some capital markets projects where IFC funds are not targeted to specific subprojects, but the financial institution has operations, which may have adverse impacts, the project may also be classified as Category FI.

The scope of the assessment shall be commensurate with the magnitude of risks and impact of the project. The assessment shall also meet the requirements of the *Conducting ESIA's to International Standards Requirements Technical Standard*.

4.5. Compensation Measures

All persons losing assets or use of resources as a direct result of a project are considered Project Affected People, and are entitled to compensation and other forms of assistance. This includes people losing land they have held under customary or traditional law, people using common

Technical Standard – Land and Resettlement Management

property resources, squatters residing on public lands, and encroachers deprived of established access to resources, as well as those with formally recognised property rights. It also includes tenants, artisans, and wage earners whose livelihoods or living standards would be adversely affected as a direct result of the project. It does not include persons opportunistically invading a site after disclosure of project plans for the purpose of obtaining assistance. Land and assets, when acquired, shall be replaced like-for-like, wherever feasible, and especially in relation to Indigenous Peoples and Vulnerable Communities. Where it is demonstrated that such replacement land options are not available, or not preferred by the Project Affected Households, Vedanta operations shall ensure that compensation against acquired land and other assets are provided at full replacement cost. All transaction costs involved in purchasing replacement land/assets will be borne by the Operation.

4.6. Resettlement Support

Where households need to be physically displaced, Operations shall ensure that such households are provided with alternate housing which is culturally appropriate, in resettlement sites in suitable locations chosen in consultation with the households to be resettled. Support will be provided to all categories of affected persons, such as tenants, property owners, squatters and host communities. A lack of legal title to land does not disqualify people from resettlement assistance, the housing and access to infrastructure and amenities will be of an improved standard than that of their pre-displacement standard. To the extent possible, households will be given options for resettlement.

4.7. Rehabilitation for livelihood restoration

In addition to the compensation of assets, all impacted households will be provided long term rehabilitation assistance and programmatic support to help them restore their livelihoods and overall quality of lives to at least pre-project levels, and preferably better.

4.8. Support to Vulnerable Groups

Vulnerable Groups shall be defined and identified for each project/operation during the impact assessment stage and special attention will be given to such groups. Where such vulnerable groups are provided special provisions under national law, Vedanta will facilitate similar provisions in its own operations. Where there are internationally recognised rights for some of these vulnerable groups, Vedanta will try and meet these requirements wherever applicable.

4.9. Community engagement

Effective community engagement processes for the resettlement programme shall be developed and implemented. Vedanta operations shall develop a project specific consultation procedure that will be transparent, inclusive, culturally appropriate and mutually acceptable to the stakeholders. All operations will ensure informed consultation and participation of the affected community and stakeholders. Community engagement will also include disclosure of relevant information throughout all phases of the project, (planning, implementation, monitoring, and evaluation of compensation payments, livelihood restoration activities, and resettlement). It is important to note that all engagement and consultation should include women and other vulnerable groups.

4.10. Grievance mechanisms

As per the scale and need of the project, Vedanta operations shall establish a suitable grievance redress mechanism to deal with land and resettlement issues. Adequate mechanisms in compliance with the local law and the international standards will be put in place to deal with the

Technical Standard – Land and Resettlement Management

complaints and concerns of the stakeholders. The grievance mechanism shall meet the requirements of the *Grievance Mechanism Technical Standard*.

4.11. Institutional arrangement

Vedanta's operations shall put in place an institutional structure with defined roles and responsibilities for the management of land and resettlement programmes. The team size, skill requirements and allocation of resources will be in accordance with the magnitude of the impact and may also include external agencies such as NGOs for proper implementation of the resettlement program.

4.12. Monitoring and evaluation

Vedanta's operations shall ensure adequate monitoring and evaluation processes are in place to assess implementation of the Resettlement Action Plan. The cost of monitoring and evaluation will be inclusive in total resettlement & rehabilitation budgets. Monitoring will include internal as well as external third party monitoring to assure that the Resettlement Action Plan objectives and processes are being met.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- Project designs and alternatives have been considered to minimise negative impact of land take and resettlement.
- Land purchase options through negotiated settlements have been considered.
- A formal and documented Resettlement Action Plan, prepared to comply with national laws and policies as well as international standards, has been prepared and implemented when Category A or B projects are identified in the impact assessment process.
- Compensation against acquired land and other assets are provided at full replacement cost.

Technical Standard – Land and Resettlement Management

- Alternative housing has been provided when households have been displaced and is of a standard superior to the displaced location.
- A programme for long term support for impacted households is in place to restore livelihoods and overall quality of life.
- An effective community/stakeholder engagement process is in place and it is transparent, inclusive and culturally appropriate.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
International Finance Corporation Performance Standards Guidance Notes	The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions are available however these have not yet been finalised and formally published. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 3 years since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 01	Social Policy

Technical Standard – Land and Resettlement Management

Doc. Ref.	Document name
TS 05	Stakeholder Engagement
TS 08	Conducting ESIA's to International Standards
TS 04	Grievance Mechanisms

Technical Standard – Grievance Mechanisms

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Grievance Mechanisms

Technical Standard – Grievance Mechanisms

Standard Title:	Grievance Mechanisms	Date of Revision	30/09/2011
Standard:	VED/CORP/SUST/TS 4	Revision:	v.1

Document Issue and Revision History		
DATE	REVISION NUMBER	CHANGE SUMMARY
30/09/2011	1	Initial issue.

Authorised by:	Tony Henshaw
Signature	
Position:	Chief Sustainability Officer

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Technical Standard – Grievance Mechanisms

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Employee Grievance Mechanisms	7
4.3. External Stakeholder Grievance Mechanisms	8
4.4. Resourcing	9
4.5. Reporting and Recording	9
4.6. Monitoring and Evaluation	10
4.7. Training	10
5. ROLES AND RESPONSIBILITIES	11
6. COMPLIANCE AND PERFORMANCE	11
7. SUPPORTING INFORMATION	11
8. REVIEW	12
9. RELATED DOCUMENTATION	12

Technical Standard – Grievance Mechanisms

1. INTRODUCTION

The purpose of this Technical Standard is to ensure that the programme design, risk management controls and supporting information are in place to proactively manage and maintain effective employee and other external stakeholder grievance mechanisms for the Vedanta Group.

2. SCOPE

This Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Affected Party	Stakeholders who are affected by the company or operation, both positively and negatively. Within this it is possible to distinguish between those that are directly affected and indirectly affected by the company or operation.
Communication	Dialogue between Vedanta and affected or interested parties. Communication is exchanging (giving and receiving) information. Communication enables Vedanta to convey the aspects, risks and opportunities of their operations, and to receive information from a range of stakeholder’s concerns, questions and suggestions shared in response.
Consultation	Consultation is not the same as communication although both are two-way processes. Consultation is purposeful and deliberately seeks input from stakeholders in order to shape relations and the development of programmes. It involves the business, key individuals, organisations and groups affected by or interested in the development and outcomes of the issue/process being discussed. The aim is to ensure mutual understanding and for all parties to be able to manage decisions that have a potential to affect all concerned. A good consultation process needs to be supported by a strong communication programme.
Grievance	A concern, complaint or feeling of resentment raised by any stakeholder either affected or interested in company operations. Both concerns and complaints can result from either real or perceived impacts of a company’s operations.
Incident	An event or chain of events which caused or could have caused injury, illness, loss of assets or potential or actual damage to relationships or reputation.

Technical Standard – Grievance Mechanisms

Term	Definition
Interested Party	Persons or groups who, although not affected by the Vedanta Group or operations, have an interest in or influence over Vedanta and its operations. This might include welfare organisations, non-government organisations, local businesses and political groups.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Records of communication / consultation	Records of communication / consultation may include key e-mails, letters, newsletters, memorandums, complaints, opportunities for improvement, records of distribution/attendance, records of formal and informal meetings and records of commitments. Refer to <i>Employee Consultation & Participation</i> and <i>Stakeholder Engagement Technical Standards</i> .
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and interested third parties.
Stakeholder engagement	An umbrella term encompassing a range of activities and interactions between Vedanta and stakeholders over the life of a project that are designated to promote transparent, accountable, positive, and mutually beneficial working relationships. Stakeholder engagement includes stakeholder identification and analysis, information disclosure, communication, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Vulnerable Groups	Individuals or groups within the project area of influence who could experience adverse impacts more severely than others based on their vulnerable or disadvantaged status. This vulnerability may be due to an individual's or group's race, sex, language, religion, political, or other opinion, national or social origin, property, birth or other status. In addition other factors should be considered such as gender, ethnicity, culture, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources.

Technical Standard – Grievance Mechanisms

4. PROGRAMME REQUIREMENTS

All Vedanta subsidiary companies and operations are required to follow the requirements listed below with regards to the mechanisms for handling and resolving both employee and other external stakeholder grievances.

4.1. General Requirements

Local concerns over the impact of a project can be expressed in the form of a complaint both formally or informally and can encompass relatively minor concerns as well as more entrenched, serious or long-term issues which may be described as grievances. In both cases it is important to have robust and credible local mechanisms to systematically handle and resolve any complaints that might arise from both real and perceived impacts in order that they do not escalate and present a risk to operations. If well-handled, an effective grievance mechanism can foster positive relationships and trust with employees and external stakeholders. In order to manage internal and external grievances effectively, all Vedanta operations must comply with the following:

- a) The grievance mechanism for employees shall remain separate from public grievance mechanisms;
- b) In the first instance and in order to avoid, wherever possible, a situation where a grievance occurs, Vedanta shall ensure proactive stakeholder engagement practices as described in the *Stakeholder Engagement Technical Standard* and the *Employee Consultation and Participation Technical Standard*;
- c) Grievance mechanisms shall acknowledge and address concerns over both real and perceived impacts in the same way and with the same level of care;
- d) Grievance mechanisms shall address even minor complaints, both formal and informal to avoid escalation into serious grievances;
- e) Grievance mechanisms shall be established as early as possible in the project cycle and at all Operations;
- f) Grievance mechanisms shall follow a transparent and easily understandable process;
- g) All grievance mechanisms shall be readily accessible, culturally appropriate and proactively communicated to employees and other external stakeholders as appropriate;
- h) No grievance mechanisms shall impede access to or seek to take the place of legal remedies, should these be warranted;
- i) The mechanism should not impede access to or substitute mechanisms provided through or rights to collective agreements
- j) The organisational structures and roles and responsibilities shall be established in order to resource and support grievance mechanisms for both employees and other external stakeholders;

Technical Standard – Grievance Mechanisms

- k) Arrangements shall also be implemented to ensure conformance to the requirements of the *IFC Performance Standards*; and
- l) The key IFC provisions are summarised as follows:
- *Performance Standard 1 – Assessment and Management of Social and Environmental Risks and Impacts*. This includes establishing a grievance mechanism directed to receive and facilitate resolution of Affected Communities concerns and grievances about Vedanta's environmental and social performance. The grievance mechanism should be scaled to the risks and adverse impacts of the project and have Affected Communities as its primary user. It should address concerns promptly, using an understandable and transparent process that is culturally appropriate and readily accessible, and at no cost and without retribution to the party that originated the issue or concern. The mechanism should not impede access to judicial or administrative remedies. Vedanta will inform the Affected Communities about the mechanism in the course of the stakeholder engagement process.
 - *Performance Standard 2 – Labour and Working Conditions* – The relevant objectives of this standard are to ensure Vedanta provides a grievance mechanism for workers (and their organizations, where they exist) to raise reasonable workplace concerns, to respond to communities' concerns related to projects and where there are Affected Communities, establish a grievance mechanism directed to receive and facilitate resolution of the Affected Communities concerns and grievances about the clients environmental and social performance.

4.2. Employee Grievance Mechanisms

- a) A grievance mechanism shall be established to allow for ongoing opportunities to receive and facilitate the resolution of concerns and grievances from employees. This mechanism shall be designed to ensure that:
- grievances are addressed promptly, using an understandable and transparent system;
 - comments, suggestions and complaints are received, logged, followed up and signed off in an appropriate manner;
 - grievances are registered and documented, and resolutions are found in partnership with the employee(s);
 - the grievance process is objective and protects the identity of the person raising the issue (as necessary);
 - employees raising grievances are treated with respect and not subject to discrimination or disciplinary procedures;
 - if a reasonable rejection of the complaint is required, a full explanation will be provided to the complainant;

Technical Standard – Grievance Mechanisms

- if complaints cannot be resolved through the grievance mechanism, it may be necessary that complainants have recourse to other forms of redress e.g. judicial or administrative channels for dispute resolution available in the country of operation;
 - the outcome is appropriately communicated.
- b) A senior manager shall be designated as accountable for the establishment and effective implementation of the grievance mechanism. This shall be included in the job description or equivalent of the senior manager.

4.3. External Stakeholder Grievance Mechanisms

When a complaint, dispute or grievance does arise, in order that Vedanta operations respond effectively and in a timely manner, a robust grievance mechanism shall be put in place for every operation using the following criteria:

- the grievance mechanism shall allow for the widest possible understanding of complaints or grievances, covering any subject which is deemed important by stakeholders, and will ensure that all types of complaints and grievances are handled in the same way and with the same level of robustness and integrity;
- the grievance mechanism shall be scaled to the potential risk and adverse impacts to affected and interested stakeholders. This will be dictated by a risk assessment and stakeholder identification analysis discussed in the *Stakeholder Engagement Technical Standard*;
- Vedanta shall proactively inform affected communities and wider stakeholders of the details of the grievance mechanism in the course of its community and stakeholder engagement activities as described in the *Stakeholder Engagement Technical Standard*;
- the grievance mechanism shall be clear and accessible to all segments of communities including vulnerable groups, those differentially or disproportionately affected and wider stakeholders at no cost to them;
- Vedanta will respond to any stakeholder concerns or grievances promptly and thoroughly in all cases;
- communities and where appropriate respected third parties shall be involved in designing, communicating and implementing the grievance mechanism using culturally appropriate and agreed ways of communication and remedy;
- The grievance mechanism will protect those who use it, will never result in any kind of retribution and will not impede access to other remedies or alternative recourse e.g. judicial or administrative channels for dispute resolution available in the country of operation;

Technical Standard – Grievance Mechanisms

- the mechanism shall allow for different ways of making complaints and shall define a clear and transparent process for resolving complaints including regular updates for complainants;
- to mitigate perceptions that resolutions unfairly benefit the company, in almost all cases, face-to-face discussions with complainants and community members should be sought with the aim of finding resolutions in partnership and increasing ownership of solutions;
- any outcomes should be transparently communicated whilst protecting the identity of those involved wherever necessary or requested;
- responses to serious concerns or grievances shall be decided by a cross-departmental committee rather than by a single individual;
- if a reasonable rejection of the complaint is required, a full explanation shall be provided to the complainant;
- a complaint or grievance shall be regarded as a company ‘Incident’ and will be recorded, tracked, investigated, where necessary, and communicated appropriately across the business in order that lessons can be learnt to avoid future risks to the business;
- the operation-level mechanism shall feed into a group-level procedure so that maximum transparency of operational grievances is assured and the group can maintain oversight and implement organisational responses where necessary.

4.4. Resourcing

In order to accomplish the grievance mechanism elements described above Vedanta shall ensure the following resources are in place:

- internal organisational support and accountability for the mechanism, emphasising that concerns and grievances should be taken seriously and appropriate resolutions sought promptly;
- trained competent employees or failing that, external resources who are experienced in social and environmental management and in dealing with community concerns and complaints;
- an auditable system for receipt, recording and tracking of the process (for example a grievance log, tracking cards, database or other) shall be in place;
- a written procedure for handling grievances and conflict resolution with responsibilities assigned for each step as well as management oversight, and;
- a budget allocation to deal with grievance tracking and handling.

4.5. Reporting and Recording

Technical Standard – Grievance Mechanisms

All grievances shall be received, registered, documented and tracked within a secure database or equivalent programme with controlled access. This will assist in tracking overall trends and patterns in concerns allowing emerging issues to be flagged and understood at an early stage.

As a minimum the following information shall be recorded:

- date;
- details of complaint;
- history of other complaints / queries / questions;
- prioritisation using a common scale to assist with timelines for resolution;
- resolutions agreed with the party(ies) in question, and;
- actions implemented.

4.6. Monitoring and Evaluation

- a) The *employee* grievance mechanism shall be subject to internal monitoring and evaluation every two years to ensure its effectiveness or sooner if its efficacy comes into question.
- b) The external *stakeholder* grievance mechanism shall be subject to monitoring and evaluation both internally by the Sustainability Committee and by external stakeholders at least every two years to ensure its effectiveness or sooner if its efficacy comes into question.
- c) Vedanta shall report regularly to the public on its measures to address grievances whilst protecting the privacy of individuals.

4.7. Training

Training shall be provided for managers, all other employees, contractors and visitors in the company's policy and practices for both employee and other external stakeholder grievance mechanisms, relevant to their exposure and responsibilities which includes as a minimum:

- expected behaviours and accepted practices when interacting with employees and stakeholders in order to avoid a grievance in the first instance;
- routes available for employees to lodge a grievance;
- routes available for employees and other external stakeholders to lodge a grievance;
- roles and responsibilities for handling and resolving grievances (including key internal and external stakeholder contacts), and;
- recording and tracking procedures.

Technical Standard – Grievance Mechanisms

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level and which meet the requirements as set out in the *Sustainability Data Management Technical Standard*.

The evaluation of performance shall include, as a minimum, confirmation that:

- each operation has a grievance mechanism for both employees as well as other external stakeholders appropriate to the local context;
- grievances are logged, recording all required information, tracked, and resolutions found in consultation with the affected parties, showing evidence of close out, follow up and communication of the results;
- both employee and other external stakeholder grievance mechanism resource requirements are included as line items in annual plans, capital and operational expenditure forecasts and committee meeting agendas;
- roles, responsibilities and accountabilities have been clearly defined and documented for grievance mechanism design and grievance handling; and
- operations have evidence that they have sought feedback on grievance mechanisms to make improvements where possible.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced many best practice documents on a range of health, safety, environment and community issues relating to mining including a Materials Stewardship Toolkit which covers Stakeholder Engagement and assessment of Stakeholder Engagement performance.

Technical Standard – Grievance Mechanisms

Reference	Description
	http://www.icmm.com/library
International Finance Corporation Performance Standards Guidance Notes	<p>The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions are available however these have not yet been finalised and formally published.</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards</p>
International Finance Corporation Good Practice Note	<p>The IFC has published a Good Practice Note on 'Addressing Grievances from Project-Affected Communities'</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/pGrievanceMechanisms/\$FILE/IFC+Grievance+Mechanisms.pdf</p>
ICMM (International Council of Mining and Metals) Human Rights in the Mining & Metals Industry Guide to Handling and Resolving Local Level Concerns & Grievances	<p>The ICMM has published a Guide to Human Rights in the Mining & Metals Industry specifically on Handling and Resolving Local Level Concerns and Grievances. This is a pilot testing version.</p> <p>http://www.icmm.com/page/15822/icmm-presents-new-guidance-note-on-handling-and-resolving-local-level-concerns-and-grievances</p>

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
POL 04	Stakeholder Engagement
TS 02	Employee Consultation and Participation

Technical Standard – Grievance Mechanisms

Doc. Ref.	Document name
TS 05	Stakeholder Engagement
TS 21	Sustainability Data Management

Technical Standard – Stakeholder Engagement

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Stakeholder Engagement

Technical Standard – Stakeholder Engagement

Standard Title:	Stakeholder Engagement	Date of Revision	30/09/2011
Standard:	VED/CORP/SUST/TS 5	Revision:	v.1

Document Issue and Revision History		
DATE	REVISION NUMBER	CHANGE SUMMARY
30/09/2011	1	Initial issue.

Authorised by:	Tony Henshaw
Signature	
Position:	Chief Sustainability Officer

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Technical Standard – Stakeholder Engagement

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. Stakeholder Identification and Analysis	6
4.2. Stakeholder Engagement	9
4.3. Incident Reporting and Recording	11
4.4. Training	12
5. ROLES AND RESPONSIBILITIES	12
6. COMPLIANCE AND PERFORMANCE	12
7. SUPPORTING INFORMATION	13
8. REVIEW	14
9. RELATED DOCUMENTATION	14

Technical Standard – Stakeholder Engagement

1. INTRODUCTION

The purpose of this Technical Standard is to establish the programme design, risk management controls and supporting information are in place to proactively manage and maintain Stakeholder Engagement and consultation for the Vedanta Group. The requirements are in conformity with the *Vedanta Stakeholder Engagement Policy* and international standard requirements.

2. SCOPE

This Management Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure). This Technical Standard should be considered with reference to the *Vedanta Stakeholder Engagement Policy*.

3. DEFINITIONS

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

Term	Definition
Affected Party	Stakeholders who are affected by the company or operation, both positively and negatively. Within this it is possible to distinguish between those that are directly affected and indirectly affected by the company or operation.
Communication (with regard to stakeholders)	Dialogue between Vedanta and affected or interested parties. Communication is exchanging (giving and receiving) information. Communication enables Vedanta to convey the aspects, risks and opportunities of their operations, and to receive information from a range of stakeholder's concerns, questions and suggestions shared in response.
Consultation	Consultation is not the same as communication although both are two-way processes. Consultation is purposeful and deliberately seeks input from stakeholders in order to shape relations and the development of programmes. It involves the business, key individuals, organisations and groups affected by or interested in the development and outcomes of the issue/process being discussed. The aim is to ensure mutual understanding and for all parties to be able to manage decisions that have a potential to affect all concerned. A good consultation process needs to be supported by a strong communication programme.
Grievance	A concern, complaint or feedback raised by any stakeholder either affected or interested in company operations. Both concerns and complaints can result from either real or perceived impacts of a company's operations.
Incident	An event or chain of events which caused or could have caused injury, illness, loss of assets or potential or actual damage to relationships or reputation.

Technical Standard – Stakeholder Engagement

Term	Definition
Interested Party	Persons or groups who, although not affected by the Vedanta Group or operations, have an interest in or influence over Vedanta and its operations. This might include welfare organisations, non-government organisations, local businesses and political groups.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Records of communication / consultation	Records of communication / consultation may include key e-mails, letters, newsletters, memorandums, complaints, opportunities for improvement, records of distribution/attendance, records of formal and informal meetings and records of commitments. Note: the businesses need to identify communications that are critical to ensure avoidance of risks (both to community and employees).
Representative Participation	Through stakeholder engagement all stakeholders and parts of society are represented and able to participate in dialogue with operations which they are directly impacted by or interested in.
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and international third parties.
Stakeholder engagement	<p>An umbrella term encompassing a range of activities and interactions between Vedanta and stakeholders over the life of a project that are designed to promote transparent, accountable, positive, and mutually beneficial working relationships.</p> <p>Stakeholder engagement includes stakeholder identification and analysis, information disclosure, communication, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.</p>
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Vulnerable Groups	Individuals or groups within the project area of influence who could experience adverse impacts more severely than others based on their vulnerable or disadvantaged status. This vulnerability may be due to an individual's or group's race, sex, language, religion, political, or other opinion, national or social origin, property, birth or other status. In addition

Technical Standard – Stakeholder Engagement

Term	Definition
	other factors should be considered such as gender, ethnicity, culture, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources.

4. PROGRAMME REQUIREMENTS

All Vedanta subsidiary companies and operations are required to follow the requirements listed below with regards to the mechanisms for identifying, evaluating, preserving and protecting cultural heritage that may be impacted by a proposed Vedanta activity or operation.

4.1. Stakeholder Identification and Analysis

The premise for undertaking stakeholder identification and analysis is to identify and understand who might be directly or indirectly affected or interested in Vedanta operations, either positively or negatively as well as who can contribute to or hinder their success. Proactive stakeholder identification and analysis will enable operations to effectively manage their social risks and responsibilities and foster positive relationships and trust with the stakeholders for each operation.

The following processes will be put in place by all operations:

- a) At all stages of the project lifecycle, Vedanta will ensure that stakeholder identification, analysis and engagement are completed in a proactive manner and each stakeholder or group managed commensurate with the potential and relevant impacts, risks to stakeholders, and the associated risks to the project.
- b) Each operation will implement their own stakeholder identification and analysis processes, as the information gathered will need to be context specific and cannot be replicated from site to site.
- c) Operations shall identify and record the various individuals and groups who are affected or likely to be affected either directly or indirectly by operations, or who may have an interest in the operation.
- d) Operations will also identify potential stakeholder representatives, for example community leaders, who could act as conduits for both dissemination of information to large numbers of stakeholders and for the operations to receive information from them. The individuals or groups identified should seek to be representative of affected stakeholders (e.g. to include men *and* women, ethnic minorities and vulnerable groups). Furthermore, operations must be aware that identified individuals will be in a relative position of power within a group and samples of affected stakeholders must be approached to ensure that their views are being represented accurately.
- e) As part of the process above, operations shall identify individuals and groups who may be differentially or disproportionately affected by operations due to their disadvantaged, isolated or vulnerable status and consider specific and proactive communication routes for these groups.

Technical Standard – Stakeholder Engagement

- f) Operations will then identify *how* stakeholders may be affected and the extent of both actual and perceived impacts and record these impacts against each group. Operations will look at key issues which are important to each group and areas which require further investigation and or communication. Where negative impacts are perceived by stakeholders, additional information and communication may be required to provide reassurance of the assessed level of impact.
- g) Using the information gathered above, operations will determine the level of communication and consultation that is appropriate for each stakeholder or group. From this information a Stakeholder Engagement Plan will be developed.
- h) Employees will always be considered as stakeholders although operations should develop separate processes for employee engagement regarding working conditions; including occupational health and safety (*see TS 02 Employee Consultation and Participation Technical Standard*).
- i) The stakeholder analysis process must be periodically refreshed and repeated, at least every two years or whenever there is a significant change to the operation, to ensure that the landscape of stakeholders is comprehensively represented, and that the perceived and actual impacts on those stakeholders remains understood and accurate.

Throughout the lifecycle of the project the Stakeholder Identification Analysis processes will be reviewed and updated if necessary taking into consideration feedback from stakeholders or when there are any significant changes to the project scope, size, activity, geography or a new or emerging stakeholder or stakeholder group is identified which was not previously reflected.

In order to identify all possible affected and interested stakeholders and stakeholder groups the following affected and interested parties as well as authorities will be considered, acknowledging that this is not an exhaustive list:

Tenant and neighbouring communities	Indigenous or tribal peoples with special ties to land or who have specific land, resources and cultural rights
Employee’s families	
Women, men, youth, minority groups and disadvantaged or disempowered regardless of income level or position in society	Both political and traditional tribal structures and leaders
People owning land or assets impacted by the project or identified for resettlement (both on and off-site)	Local government authorities
People using agricultural land or natural resources potentially impacted by the project	National agencies including social and environmental
People living on the existing site (whether they have title or not)	Commercial and industrial enterprises including suppliers, customers and contractors
In-migrants attracted to the project and its potential labour benefits prior to	Unions including labour
	National agencies
	Media

Technical Standard – Stakeholder Engagement

implementation

People from surrounding areas who may be potential sources of labour

People’s organisations and institutions affected by the project such as village civil society groups, development associations, recreational groups, women’s groups, farming, fishing or other activity based cooperatives, and religious groups

Activist groups (local, national and international where relevant)

Non-governmental organisations (local, national and international where relevant)

Artisanal or small-scale mining groups and individuals

Research institutes and educational institutions

In addition to the process above, Vedanta will identify stakeholder representatives who may be used as main points of contact to make the flow of information both to and from interested and affected parties more efficient. It is essential, however, that these representatives are genuine advocates of the views of those they represent and do not isolate any groups or individuals. These representatives must be proposed by the stakeholders themselves rather than suggested by the company.

Stakeholder representatives may include elected public representatives of village, local or national councils, traditional or tribal representatives, such as village headmen or religious leaders. They could include leaders or chairmen of local cooperatives or other community-based organisations, NGO’s, women, farmers or women’s groups etc.

Vedanta will ensure that representatives provide adequate and equal representation to all members of society by talking directly to a sample of impacted and interested stakeholders to ensure that their views are being communicated and represented accurately.

In order to identify the potential impacts, concerns and risks that stakeholders may pose to each given project or experience themselves as a result of project development, the following questions must be considered and recorded to ensure that the range of stakeholders identified is comprehensive.

Questions to discuss during the Stakeholder Analysis process:

Who will be directly and negatively affected by the project (including environmental, social, health, safety, economic or any other negative impact)?

Who will be indirectly and negatively affected by the project?

Who will be directly and positively affected by the project (including environmental, social, health, safety, economic or any other positive impact)?

Who will be indirectly and positively affected by the project?

Who’s permission is required for access to project areas?

Whose cooperation, expertise or influence will be helpful to the success of the project?

Technical Standard – Stakeholder Engagement

Whose formal or official decisions may have an effect on the project?

Who has informal authority that might affect the project?

Whose opposition could be detrimental to the success of the project?

Who supports or opposes the changes that the project will create?

Who will be the most vulnerable, least visible and voiceless for whom special consultation efforts may have to be made?

Who will benefit from the project?

4.2. Stakeholder Engagement

Effective stakeholder engagement enables stakeholders to be appropriately engaged and informed of the environmental, social and other potential positive and negative impacts which could affect them through a process of information disclosure, consultation, participation and meaningful dialogue with the company. It supports the maintenance of a constructive relationship with stakeholders on an ongoing basis. Stakeholder engagement requires both resources and investment; however, when undertaken successfully it will reduce financial and reputational risk, operational delay, increase operational value and enhance the social benefits for communities. To achieve this goal, operations must implement the following:

- a) Stakeholder engagement will be based on values of proactive and transparent access to information for all stakeholders in a timely and consistent manner which meets the expectations of all affected and interested parties.
- b) Operations will prepare a stakeholder engagement plan including measures for consultation and participation and taking into consideration international, national and local regulations and requirements.
- c) Stakeholder engagement should begin at the earliest stage of project planning and continue through the life of the project. The nature and frequency of stakeholder engagement will vary from operation to operation and be prioritised depending on the risks to and adverse impacts on affected communities, the sensitivity of the environment and level of public interest.
- d) The Stakeholder Engagement Plan will contain an inventory of all key stakeholders identified through the stakeholder analysis process to ensure representative participation and include the relevant impacts, risks and interests of these stakeholders.
- e) The plan will include details of roles and responsibilities for carrying out stakeholder consultation activities. Operations will ensure that the appropriate personnel with relevant social or environmental background are hired and subsequently trained to undertake this work. In addition, management will be sufficiently engaged in the process, maintaining overall responsibility for the outcomes.

Technical Standard – Stakeholder Engagement

- f) The plan will state how the activities will be coordinated and a schedule will be established for early and initial engagement as well as follow-up over the life of the operation. The plan will include the time and venue of any envisaged public meetings, the processes by which stakeholders are notified of meetings and how each interaction will be summarised and reported. Included will be information on how, how often, where and who will be engaged on what priority basis.
- g) The plan will include different means of consultation which are mutually agreed with the stakeholders and take into account diversity of needs amongst stakeholders including cultural considerations. As part of this process, stakeholders should be able to provide comments and recommendations on the draft Stakeholder Engagement Plan. The plan will be revised based on initial public consultations to streamline the process, and then periodic review over the life of the project to ensure that processes remain appropriate.
- h) Information will be given in local languages and in a timely, relevant, understandable and accessible manner which is in a culturally appropriate format ensuring that any vulnerable people are also taken into account, for example minority groups or displaced persons.
- i) Engagement will be free of manipulation, coercion or intimidation.
- j) Employees shall also be considered as stakeholders, and will be engaged specifically regarding any risks with regard to environment, worker health and safety, public health and safety and other social impacts on communities with proposed mitigation plans (through the application of the *Employee Consultation and Participation Technical Standard*).
- k) All stakeholders should be made aware of their options for communicating with Vedanta operations outside the routine stakeholder engagement and consultation processes when and as stakeholders feel it is required.
- l) There will be a robust process for recording and tracking any stakeholder engagement activities including meetings, questions, actions, agreements and promises or any other relevant information to ensure that this is maintained and followed-up in a timely manner regardless of any rotation or transitions in the Vedanta stakeholder engagement teams.

In order to create an informed Stakeholder Engagement Plan, initial baseline research must be undertaken which includes:

A review of regulatory requirements regarding stakeholder consultation (frequently referred to as public participation)

Understanding of levels of bribery and corruption, transparency and political governance

A review of any Social Assessments that have been undertaken including information on local power dynamics, social cohesion and the ability for groups to discuss their concerns openly

The number of people living or using land on or around the project area

Common types of economic livelihood and levels of income

Technical Standard – Stakeholder Engagement

Levels of literacy, cultural diversity and vulnerability (including the status of women)

Customary means of consultation and decision making

Whether the area has any legacy or present conflicts or public issues

Proximity to indigenous groups, reserves, cultural heritage or protected areas

Illegal, artisanal or small-scale mining activities

NGO presence and focus

This information will be used as a baseline and to inform greater understanding of the stakeholder engagement needs.

Using the information gathered above, a Stakeholder Engagement Plan shall be developed including:

- Country and regional specific regulations and requirements for public consultation
- An inventory of key stakeholders, their relationship to the project and potential/actual impact
- A schedule for the disclosure of project information
- A summary of the types of engagement methods to be used (e.g. formal and informal meetings, project posters, pamphlets, events, etc)
- Prompts for review and evaluation of the Stakeholder Engagement Plan to incorporate project learning, any incident close-outs and feedback from stakeholders
- Estimated budget for consultation activities (including resources, meetings, transportation, subsidies for poor and vulnerable groups to attend public meetings, distribution of materials etc)
- Roles and responsibilities for carrying out engagement activities
- Protocols for recording the minutes of meetings
- Measures and timelines for reporting and recording any engagement activities
- Key project messages which will be communicated to stakeholders
- Common questions and answer briefing sheets to prepare communities and project employees for planned and unplanned stakeholder consultation

4.3. Incident Reporting and Recording

- a) Vedanta will ensure that there are systems in place to report and record any communities question, complaint, grievance or incident. All complaints, grievance and incidents will be

Technical Standard – Stakeholder Engagement

investigated using consistent processes and findings including actions reported back to relevant stakeholders for their comment.

- b) Vedanta will ensure that any communities meeting, promise or significant interaction is recorded for continuity (to allow for rotation or turnover of key staff) and for the protection and satisfaction of both the community and the company.
- c) Communities incidents and concerns will be discussed within wider employee meetings and employees will be invited to share and report any community concerns or incidents in relation to the company.

4.4. Training

Training must be provided for managers, all other employees, contractors and visitors in the company's policy on Stakeholder Engagement, relevant to their exposure and responsibilities which includes as a minimum:

- Expected behaviours when interacting with the community and stakeholders
- Stakeholder Engagement principles
- Roles and responsibility for Stakeholder Engagement (including key internal and external stakeholder contacts)
- Incident reporting procedures
- Recording procedures for all other types of community engagement activities (such as meetings, agreements etc).

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level and which meet the requirements as set out in the *Sustainability Data Management Technical Standard*.

Technical Standard – Stakeholder Engagement

The evaluation of performance shall include, as a minimum, confirmation that:

- Each operation has a Stakeholder Engagement Plan which includes evidence of the Stakeholder Identification and Analysis process;
- Stakeholder Engagement Plans are updated when there is significant change to the operation, community grievance or incidents;
- Stakeholder resource requirements are included as line items in annual plans, capital and operational expenditure forecasts and committee meeting agendas;
- Roles, responsibilities and accountabilities have been clearly defined and documented for Stakeholder Engagement activities;
- Operations have evidence that they have sought feedback on Stakeholder Engagement processes to make improvements where possible.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	<p>The ICMM has produced many best practice documents on a range of health, safety, environment and community issues relating to mining including a Materials Stewardship Toolkit which covers Stakeholder Engagement and assessment of Stakeholder Engagement performance.</p> <p>http://www.icmm.com/library</p>
International Finance Corporation Performance Standards Guidance Notes	<p>The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions are available however these have not yet been finalised and formally published.</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards</p>
International Finance Corporation Good Practice Manual	<p>The IFC has published a Good Practice Manual on ‘Doing Better Business Through Effective Public Consultation and Disclosure’</p> <p>http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_publicconsult/\$FILE/PublicConsultation.pdf</p>
International Finance Corporation Good Practice Handbook (2007)	<p>The IFC has published a Handbook for Stakeholder Engagement: A good practice Handbook for Companies Doing Business in Emerging Markets</p>

Technical Standard – Stakeholder Engagement

Reference	Description
	http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_StakeholderEngagement_Full/\$FILE/IFC_StakeholderEngagement.pdf

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
POL 04	Stakeholder Engagement
TS 02	Employee Consultation and Participation
TS 08	Conducting ESIA's to International Standards

Technical Standard – Supplier and Contractor Management

Vedanta Resources Plc

Sustainability Governance System


Technical Standard

Supplier and Contractor Management

Technical Standard – Supplier and Contractor Management

Standard Title:	Supplier and Contractor Management	Date of Revision	03/07/2014
Standard:	VED/CORP/SUST/TS 6	Revision:	v.3

Document Issue and Revision History		
DATE	REVISION NUMBER	CHANGE SUMMARY
30/09/2011	1	Initial issue.
29/06/2012	2	Updated to include screening process and checklist (attached).
03/07/2014	3	Revised version issued

Authorised by:	Roma Balwani
Signature	
Position:	Head - Sustainable Development and Communication

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Technical Standard – Supplier and Contractor Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Screening	7
4.3. Pre-Qualification and Selection	8
4.4. Contractor Engagement on Vedanta Operations	9
4.5. Contractor Materials/Tools and Equipment	10
4.6. Permit to Work	11
4.7. Contractor Accommodation	11
4.8. Inspections and Monitoring	12
4.9. Supplier and Contractor Review	12
4.10. Change Management	12
4.11. Supplier and Contractor Management System	13
4.12. Supply chain	13
5. ROLES AND RESPONSIBILITIES	14
6. COMPLIANCE AND PERFORMANCE	14
7. SUPPORTING INFORMATION	15
8. REVIEW	15
9. RELATED DOCUMENTATION	15

Technical Standard – Supplier and Contractor Management

1. INTRODUCTION

The purpose of this Technical Standard is to ensure that Vedanta develops productive and lasting working relationships with our suppliers and contractors and that we manage the activities of contractor employees in a way that ensures the health and safety of them, Vedanta employees and others; and that supports our policies in relation to sustainability and protection of the environment. This Standard supports Vedanta’s *Supplier and Contractor Management Policy*.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees, contractor employees (working on Vedanta Group sites and transport contractor employees carrying Vedanta products) and suppliers. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Competent Person	An individual who has the necessary and sufficient knowledge, skills and experience, as well as the necessary experience to complete their responsibilities safely, effectively and consistently.
Contractor	Any third party organisation which is engaged or commissioned by Vedanta to undertake work or provide services.
Contractor employee	An employee of a contracted company engaged or commissioned by Vedanta to undertake work or provide services, but who are not directly employed by Vedanta. For example, contractor employees working on Vedanta operations, persons working for Vedanta through staff/employment agencies, contract cleaners etc.
Environmental and Social Management System	The structured framework that provides the arrangements for managing the environmental, health, safety and social aspects through the lifetime of the project.
Environmental Social Impact Assessment (ESIA)	A formalised process designed to identify, assess and document environmental and social impacts associated with a project, along with the mitigation measures and management arrangements for ensuring such measures are implemented.
Grievance	A concern or complaint raised by any stakeholder either affected by or interested in company operations. Both concerns and complaints can result from either real or perceived impacts of a company’s operations.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies, as well as 30 national and regional mining associations

Technical Standard – Supplier and Contractor Management

Term	Definition
	and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices, and research and development facilities.
Pre-qualification	Screening process undertaken to establish the suitability of a supplier or contractor to undertake certain activities or tasks.
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and interested third parties.
Stakeholder Engagement	<p>An umbrella term encompassing a range of activities and interactions between Vedanta and its stakeholders over the life of a project that are designated to promote transparent, accountable, positive, and mutually-beneficial working relationships.</p> <p>Stakeholder engagement includes stakeholder identification and analysis, information disclosure, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.</p>
Subcontractor	A contractor directly engaged or commissioned by a principal contractor to undertake work on behalf of Vedanta.
Supplier	A third party that supplies products, equipment, services or utilities to a Vedanta Company; 'supplier' is distinguishable from a 'contractor' which provides people to deliver work or provide a service.
Supply chain	The movement of materials as they flow from their source to the end customer. Supply Chain includes purchasing, manufacturing, warehousing, transportation, customer service, demand planning, supply planning and management. It is made up of the people, activities, information and resources involved in moving a product from the supplier to customer (the customer being Vedanta).
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)

Technical Standard – Supplier and Contractor Management

4. PROGRAMME REQUIREMENTS

This Standard aims to define the minimum processes that need to be established to manage sustainability risks associated with the procurement of products and equipment and the procurement of contract services. The sustainability risks associated with products and services that Vedanta and its subsidiaries commission will depend on the nature and complexity of the contract and activities being undertaken. The requirements described below shall be followed by all Vedanta subsidiary companies and operations with regards to the management of suppliers and contractors.

4.1. General Requirements

- a) Vedanta Group and operations shall ensure that the requirements of this Technical Standard are adhered to as part of the procurement of products and equipment and the procurement of contract services to ensure that environmental, social, safety and health impacts are systematically considered in all business supplier and contractor decision-making processes.
- b) All Vedanta operations shall ensure that suppliers and contractors are assessed and evaluated as part of the procurement process prior to approval.
- c) Vedanta operations shall be proactive in ensuring all approved suppliers and contractors adopt Vedanta sustainability policies and procedures including Vedanta's Mission, Code of Conduct, Policies, Management Standards and Technical Standards.
- d) For new projects, the contractor management programme shall also meet the requirements of the *New Projects, Planning Processes and Site Closure Management Standard*.
- e) Supplier and contractor management programmes shall also meet the requirements of the *IFC Performance Standards*. These requirements are summarised as follows:
 - *Performance Standard 1 – Assessment and Management of Social and Environmental Risks and Impacts*. This includes consideration of the role and capacity of contractors and suppliers in projects at the ESIA stage to the extent that they could pose a risk to Vedanta projects. The roles, impacts and risks of key suppliers will be considered where the resource utilised by a proposed project is ecologically sensitive, or in cases where low labour cost is a factor in the competitiveness of the service being supplied. Vedanta will be expected to work with key suppliers to propose mitigation measures proportionate to identified risks. Vedanta shall also train contractor employees who have direct responsibility for activities relevant to the project's social and environmental performance, so that they have the knowledge and skills necessary to perform their work, including current knowledge of the host country's regulatory requirements and the applicable requirements of IFC Performance Standards.
 - *Performance Standard 2 – Labour and Working Conditions*. Vedanta shall provide a safe and healthy work environment to contractor employees and ensure comparable practices from key off-site contractors and suppliers. Contract specifications for contractors providing workers on Vedanta operations should include provisions that they meet the occupational health and safety requirements of Vedanta, both to satisfy the requirements of Performance Standard 2 and to minimize risk and liability to Vedanta. Vedanta will use commercially reasonable efforts to: (i) ascertain that contractors are reputable and legitimate enterprises; and (ii) require that contractors have appropriate

Technical Standard – Supplier and Contractor Management

management systems in place to apply the requirements of this Performance Standard. The adverse impacts associated with supply chains will be considered where low labour cost is a factor in the competitiveness of the item supplied. Vedanta will inquire about and address child labour and forced labour in its supply chain. Vedanta should address labour issues during the undertaking of ESIA's, particularly those issues specified in Performance Standard 2, through its supply chain, by exercising control and influence over the supplier of materials and items, commensurate with the level of risks and impacts. In relation to the workers engaged by third parties (e.g. contractors in the case of this Technical Standard), Vedanta will establish policies and procedures for managing and monitoring the performance of these third party employers in relation to this Performance Standard. Vedanta shall ensure workers engaged by third parties have access to appropriate grievance mechanisms and where third parties do not have such mechanisms, Vedanta shall extend its own grievance mechanism to third party workers (see also *Grievance Mechanisms Technical Standard*).

- **Performance Standard 4 – Community Health, Safety and Security.** Vedanta will prevent or minimize transmission of communicable diseases that may be associated with the influx of temporary or permanent project labour. Contractor action can also have significant health impacts in relation to two key areas: (1) transmission of Sexually Transmitted Infections (STIs), including HIV/AIDS; and (ii) accidents and injuries (e.g. long-haul truckers have significantly higher rates of STIs than the host communities). Vedanta shall carefully consider the use of specific education and training programs for transport contractors.
- **Performance Standard 6 – Biodiversity Management.** Vedanta shall have checks in place to ensure that the production of primary products such as fibres, wood, food, and other materials procured by Vedanta for use in its operations is not associated with habitat destruction and biodiversity loss. Indirect impacts on biodiversity in Vedanta's supply chain have the potential to pose a significant reputational risk to the company. Vedanta shall therefore assess the potential for supply chain risks during the procurement of different commodities, and should have systems and verification processes to evaluate all primary suppliers or suppliers of high risk commodities. These systems and processes shall (i) identify where the commodity is being sourced from and the habitat type in this area; (ii) allow for on-going reviews of primary supply chains; and (iii) ensure that products are only procured from suppliers that are able to demonstrate good environmental practice (e.g. through environmental certification that demonstrates good environmental management and ensures there is no contribution to the conversion of natural and/or critical habitats). Vedanta shall work with its suppliers to encourage and assist them in reducing risks related to habitat conversion or loss and negative biodiversity impacts.

4.2. Screening

- a) The initial evaluation of a potential supplier or contractor shall include a desk-based screening exercise in order to assess and identify potentially significant sustainability-related issues that could impact the procurement of a supplier or contractor. The objective of the exercise is to identify and report sustainability issues relating to a supplier or contractor which may be the subject of current interest and concern to key third party stakeholders such as regulators, non-governmental organisations (NGOs), former customers, opinion formers, and broader industry/ sector trends. This screening exercise should, as a minimum, include a search/review of the information provided in the screening checklist provided in *Annex A*.

Technical Standard – Supplier and Contractor Management

- b) The desk-based screening exercise shall consult secondary sources of information including but not limited to: internet-based searches; company sustainability/corporate responsibility reports; proprietorial information; academic research papers and publications; archives, museums and libraries (public and/or private); and applicable plans, studies, or assessments prepared by relevant government authorities or other parties (including other customers who have used the supplier/contractor). Internet searches should include reference to websites associated with regulatory authorities, national and local media, NGOs and sector-specific websites.

4.3. Pre-Qualification and Selection

- a) Vedanta Group and operations shall ensure that a fair, proper and transparent supplier and contractor pre-qualification, selection and approval process is in place. The process shall include a request for references and supporting information in relation to the supplier's or contractor's competency, and ability to undertake the work or supply services and manage sustainability-related issues. Vedanta shall also communicate its sustainability expectations to suppliers and contractors during the pre-qualification stage through pre-qualification, tender or request for proposal documents.
- b) The pre-qualification, selection and approval process shall apply to all contractors and sub-contractors (where the latter are employed by contractors). Where sub-contractors are used, Vedanta operations shall ensure that all relevant sub-contractor information is provided to the Vedanta contract manager by the contractor who has been directly commissioned by Vedanta.
- c) A contractor selection questionnaire should be completed by each supplier and contractor and retained by the Vedanta operation for future reference. The selection questionnaire should be appropriate to the type of service being supplied or work to be contracted e.g. "high risk" activities such as construction or demolition at a location will require contractors to meet a more stringent set of requirements and conditions.
- d) Vedanta operations shall ensure completed supplier and contractor selection questionnaires and requested documentation are evaluated by a competent Vedanta person who is trained and authorised to evaluate and approve, or reject, suppliers or contractors, based on the responses and information provided. A list of clear 'acceptability criteria' should be developed to facilitate this process.
- e) Where contractors are required to undertake activities on behalf of Vedanta, copies of relevant supporting documentation which set out the activities to be undertaken, how the activities will be undertaken, the risks associated with the activities, and what controls and precautionary measures will be put in place to mitigate those risks, shall be requested by the Vedanta operation.

Key documents to be submitted by a contractor should include (but not be limited to) the following:

- method statements;
- risk assessments;
- contractor qualifications and experience;
- contractor employee qualifications and experience; and
- valid insurance certificates.

Technical Standard – Supplier and Contractor Management

- f) Vedanta operations shall ensure additional sustainability-related information is requested which confirms the sustainability (e.g. environment, health, safety and social) performance of the supplier or contractor. This may include references from previous customers, previous sustainability performance data, training programmes, management systems in place to manage sustainability issues, audit reports and confirmation of third party certification or accreditation.
- g) Vedanta operations shall ensure only authorised personnel can commission suppliers and contractors.
- h) Once a supplier or contractor has been approved and a contract is being drafted, Vedanta operations shall ensure that the contract, or equivalent formal document, specifies minimum sustainability requirements associated with the supplier or contractor service/activity being provided. This will include, but is not limited to, the following:
- An assigned Vedanta representative to act as the point of contact for the supplier/contractor;
 - An assigned supplier or contractor representative to act as the point of contact for Vedanta;
 - Induction training and additional training as required;
 - Overview of equipment and materials to be used in the case of contractors bringing these onto Vedanta operations;
 - Arrangements for the generation, storage, handling and disposal of wastes generated by contractors;
 - Communication arrangements between Vedanta and the supplier/contractor during the course of the contract, including arrangements for the sharing of relevant information;
 - Roles and responsibilities that are clearly defined and agreed by all parties; and
 - Welfare arrangements;
 - Security arrangements;
 - Incident/accident/near-miss reporting requirements;
 - Grievance procedures;
 - Performance targets and expectations;
 - Audit and check frequency and requirements; and
 - Arrangements associated with the provision and use of personal protective equipment (PPE), if applicable.
- i) A list of approved suppliers and contractors that have been formally approved through a pre-selection process should be maintained on file by the Vedanta operation and communicated to those employees who are authorised to engage/commission suppliers and/or contractors.

4.4. Contractor Engagement on Vedanta Operations

- a) Vedanta operations shall ensure a contractor manager and single point of contact is assigned and communicated to the contractor for the course of the contract. The Vedanta point of contact must ensure that the contractors undertake their work in a manner not to impact the health and safety of themselves or others, not to impact the environment and not to impact local communities especially where migrant labour is used (Code of Conduct etc.).

Technical Standard – Supplier and Contractor Management

- b) The assigned Vedanta contractor manager shall be responsible for ensuring that all relevant information, instruction, training and supervision that is required by contractors to perform their work safely and to minimise impacts to Vedanta employees, third parties, property, equipment and the environment is provided.
- c) Vedanta operations shall ensure that all suppliers and contractors are provided with an induction that is appropriate to the task and also meets the requirements of the *Competency, Training and Awareness Management Standard*. Inductions for contractors will include an outline of their role, responsibilities, the site and associated risks. Inductions will be maintained and delivered consistently by competent personnel and should cover as a minimum:
- Induction to Vedanta Group and operation Codes of Conduct, sustainability policies, Standards and systems; roles and responsibilities, including requirements and risks associated with the role; expectations and responsibilities. The induction shall also emphasise that all suppliers and contractors shall abide by the above Vedanta Group and operation requirements; and
 - Induction to site (or location), including site orientation, site rules and no-go areas; emergency procedures and medical facilities; site hazards and risks and associated risk controls; incident reporting procedures; permit to work procedures; signing in and out and security procedures; drug and alcohol polices; vehicle arrangements.
- d) Vedanta operations shall ensure that induction training is provided and that attendance on the training is recorded and that the contractor employees sign to say that they have received the training.
- e) Where identified by Vedanta as being required, contractor employees will be directly supervised by competent Vedanta personnel until such time that the contractor employee is deemed by Vedanta to be competent to work unsupervised.

4.5. Contractor Materials/Tools and Equipment

- a) Vedanta operations shall ensure that materials and equipment/tools being brought onto a Vedanta Operation by a contractor or its employees are appropriate for the tasks being undertaken and do not introduce additional hazards and risks to Vedanta employees, third parties, property, equipment or the environment (e.g. incompatible electrical equipment, which could represent an ignition source in a flammable or explosive atmosphere; hazardous substances etc.).
- b) Relevant information on the tools and equipment being brought onto an operation shall be made available by the contractor to Vedanta. Relevant information should include (at a minimum) material safety data sheets (MSDSs), requirements for additional PPE or control measures and other manufacturer information as appropriate. Where equipment and/or materials are brought onto a Vedanta operation they shall be checked and periodically reviewed and/or inspected to ensure that they conform to Vedanta standards. The review of contractor materials shall ensure that hazardous materials do not introduce additional hazards or risks and do not exceed maximum permissible quantities under applicable legislation.
- c) Vedanta operations shall ensure appropriate information is provided to suppliers and contractors related to the activity to be undertaken and the potential sustainability hazards

Technical Standard – Supplier and Contractor Management

and risks to which supplier or contractor employees might be exposed during the course of supplier or contractor activities being undertaken.

- d) Appropriate controls shall be in place to ensure that wastes, surplus materials and redundant equipment associated with contractor activities are stored, transported and disposed of in an appropriate manner and that meets regulatory requirements.

4.6. Permit to Work

- a) Vedanta operations shall implement an effective permit to work system for contractors undertaking hazardous/high-risk activities or where they are working in hazardous areas of a Vedanta operation.
- b) Permits are to be completed and issued by a competent Vedanta employee to those contractors involved in the activity or working in a particular area. The permit shall ensure there is a record that the hazards have been identified and the risks assessed; controls identified; appropriate equipment, procedures and PPE adopted; emergency response arrangements confirmed; and permit surrender and closure procedures have been communicated.

4.7. Contractor Accommodation

- a) In accordance with *IFC Performance Standard 2* and the associated Guideline on Workers Accommodation, where a Vedanta operation or principal contractor provides accommodation for contract workers, the accommodation shall be appropriate for its location and be clean, safe and, at a minimum, meet the basic needs of workers. In particular, the provision of accommodation shall meet national legislation and international good practice in relation, but not restricted, to the following:
 - the practice for charging for accommodation;
 - the provision of minimum amounts of space for each worker; provision of sanitary, laundry and cooking facilities and potable water;
 - the location of accommodation in relation to the workplace; any health, fire safety or other hazards or disturbances and local facilities; and
 - the provision of first aid and medical facilities; and heating and ventilation.
- b) Workers' freedom of movement to and from the provided accommodation shall not be unduly restricted.
- c) Building material shall be suitably inflammable, have smoke and fire alarms fitted and include other safety checks to prevent fire.

Technical Standard – Supplier and Contractor Management

4.8. Inspections and Monitoring

- a) Supplier and contractor activities and performance shall be regularly inspected, subject to audits and checks and monitored to ensure the suppliers and contractors are working in accordance with the agreed contract and scope of work and performance expectations.
- b) Issues identified from check, audits and inspections shall be recorded, action(s) to address the issues agreed with the supplier or contractor and closure of actions assured at the appropriate time by the Vedanta contract manager.
- c) The Vedanta contract manager shall communicate to contractors the need to report all incidents (and near misses) to Vedanta and in accordance with the requirements as set out in the *Incident Reporting and Investigation Management Standard*.
- d) The Vedanta contract manager shall communicate to contractors the need to contribute to, or participate in, Vedanta incident investigations in the event of an incident occurring related to contractor activities being undertaken.

4.9. Supplier and Contractor Review

- a) Regular review meetings should be held between the Vedanta contract manager and Vedanta operational management to discuss supplier and contractor sustainability (including environmental, health, safety and social) performance in relation to requirements as set out in the contract, progress against set targets and incident data associated with supplier and contractor activities.
- b) Additional review meetings shall be held on a regular basis with the supplier or contractor company to feedback the results of performance reviews, including areas of good performance and highlighting areas requiring improvement.
- c) Should supplier or contractor reviews indicate that performance is considered to be unacceptable by Vedanta standards, the supplier or contractor should be given the opportunity to demonstrate improved competency by putting key actions in place; if performance continues to be unacceptable, the supplier or contractor shall be removed from the supplier/contractor approval list.
- d) On short term contracts, feedback meetings with suppliers or contractors shall be held upon completion of the work/project/contract, or more frequently if required.

4.10. Change Management

- a) Vedanta shall ensure that a change management process is in place in relation to supplier and contractor management, which meets the requirements of the *Management of Change Management Standard*. This shall include processes to deal with changes relating to the following:
 - Vedanta operations or activities;
 - Assigned Vedanta contract managers and pre-selection personnel;

Technical Standard – Supplier and Contractor Management

- Approved supplier or contractor companies and/or point of contact or other key personnel;
- Contractor materials and equipment (e.g. new hazardous chemicals);
- Contractor activities considered as being out of scope of the agreed contract;
- Regulations that could impact the use of approved suppliers or contractors; and
- Communication and engagement processes.

4.11. Supplier and Contractor Management System

- b) Vedanta shall design, create and implement or otherwise adapt an existing environmental, health, safety and social management system that is appropriate to risks identified by Vedanta to incorporate the requirements in this Standard as summarised in the following:
- Arrangements (pre-qualification and selection, roles, responsibilities, schedule) for managing suppliers and contractors;
 - Mitigation measures, as detailed in supplier and contractor contracts, for managing positive and negative impacts associated with supplier and contractor activities;
 - Maintaining critical documentation (e.g. contracts, technical information, method statements, risk assessments) supplied by suppliers and contractors;
 - Provision of induction and training requirements;
 - Management of change processes;
 - Permit to work requirements;
 - Clear and documented communication, consultation and engagement processes and arrangements;
 - Grievance mechanism; and
 - Mechanisms for monitoring, reporting on and reviewing contractor performance and management.

4.12. Supply chain

- a) Vedanta operations shall identify material supplies/suppliers in terms of sustainability impact and consider how they can work with the key suppliers to reduce sustainability impacts. This may include identifying raw material products with the most significant impact and determining risk reduction methods in collaboration with the supplier, such as energy efficiency programmes, raw material substitution, alternate packaging strategies including take-back, alternate transport strategies etc.

Technical Standard – Supplier and Contractor Management

- b) In accordance with *IFC Performance Standard 2*, Vedanta operations shall monitor their primary supply chain on an ongoing basis in order to identify any significant changes in its supply chain and if new risks of child and/or forced labour are identified, Vedanta shall take appropriate steps to remedy them.
- c) In accordance with *IFC Performance Standard 2*, where there is a high risk of significant issues related to workers employed by a primary supplier, Vedanta operations will introduce procedures and mitigation measures to ensure that primary suppliers within the supply chain are taking steps to prevent or to correct life-threatening situations.
- d) In accordance with *IFC Performance Standard 6*, where there is a risk that the procurement of certain materials is associated with adverse impacts on biodiversity and ecosystem impacts for example through habitat and species loss and land use change, Vedanta operations shall introduce systems and verification practices such that primary suppliers can be evaluated and indirect impacts reduced as far as possible.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure it complies with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- A supplier and contractor approval process is in place.
- Selection questionnaires have been completed by suppliers and contractors prior to approval and these are held on record.
- Assigned Vedanta personnel who evaluate and approve suppliers and contractors have the appropriate competency levels.
- Supplier and contractor contracts include documented sustainability requirements and expectations.
- Supplier and contractor pre-qualifying information (including method statements, risk assessments etc.) is maintained on record for future reference.
- A list of approved suppliers and contractors is maintained on record and has been communicated to employees engaging/managing suppliers and contractors.

Technical Standard – Supplier and Contractor Management

- A Vedanta contractor manager has been appointed for the course of each contract.
- Supplier and contractor inductions (and any additional training requirements) have been completed and are maintained on record.
- Inspections and audits of contractors and any issues identified have been recorded and communicated to the contractor.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
International Finance Corporation Performance Standards Guidance Notes	The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions (V2) are available however these have not yet been finalised and formally published. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards
IFC Guidance Note: Aug 2009	Workers' accommodation: processes and standards. A guidance note by IFC and the EBRD. http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/p_WorkersAccommodation/\$FILE/workers_accomodation.pdf

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Technical Standard – Supplier and Contractor Management

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 05	Supplier and Contractor Management
MS 06	Competency, Training and Awareness
MS 07	Management of Change
MS 11	Incident Reporting and Investigation
TS 04	Grievance Mechanisms
TS 07	Biodiversity Management

Technical Standard – Supplier and Contractor Management

Annex A

Supplier and Contractor Screening Checklist

A desk-based screening exercise should be undertaken in order to assess and identify potentially significant sustainability-related issues that could impact the procurement of new suppliers and contractors. The following checklist provides a list of the minimum information that must be reviewed and the checklist completed and should be used as a starting point for the suppliers and contractors screening exercise.

Subject	Criteria/Material/Significant Issues	Yes	No
<i>Approved supplier/contractor</i>	Has the supplier/contractor already been refused or omitted from a Vedanta approved supplier/contractor list?		
<i>Reputation (NGOs, media)</i>	Does the supplier/contractor have a poor public reputational image as reported in the public domain by NGOs or by national media?		
<i>Reputation (customers)</i>	Does the supplier/contractor have a poor reputational image as reported by other customers that have commissioned their services?		
<i>Bribery and corruption</i>	Are there identified bribery and corruption issues associated with the supplier/contractor's activities/operations?		
<i>Licensing/Permitting</i>	Does the supplier/contractor have significant issues associated with current or future licensing/permitting requirements?		
<i>Regulator Involvement</i>	Are there identified regulator issues (e.g. court cases/prosecutions/compensation claims etc.) associated with the supplier/contractor's activities/operations?		
<i>Insurance</i>	Are there concerns associated with the supplier/contractor not having the appropriate insurance in place?		
<i>Supply Chain/Product Stewardship</i>	Are there identified supply chain and product stewardship issues associated with the supplier/contractor?		
<i>Subcontracting</i>	Does the supplier/contractor subcontract out its service rather than use its own employees?		
<i>Sustainability management systems</i>	Are there identified issues associated with poor sustainability-related management systems?		
<i>Environment</i>	Are there potential significant environmental concerns (e.g. biodiversity, water, waste, air quality, land contamination etc.) associated with the activities of the supplier/contractor?		
<i>Safety</i>	Are there potential significant safety concerns (e.g. poor fatality record) associated with the activities of the supplier/contractor?		
<i>Health</i>	Are there potential significant health concerns (e.g. poor health exposure) associated with the activities of the supplier/contractor?		
<i>Labour Conditions</i>	Are there potential significant concerns relating to labour conditions associated with the activities of the supplier/contractor?		
<i>Child labour</i>	Are there potential significant issues associated with child labour associated with the activities of the supplier/contractor?		
<i>Human Rights</i>	Are there potential significant human rights issues (including grievances/complaints) associated with the activities of the supplier/contractor?		
<i>Other Social Issues</i>	Are there potential significant social issues (e.g. cultural heritage, land resettlement, indigenous peoples etc.) associated with the activities of the supplier/contractor?		

Technical Standard– Biodiversity Management

Vedanta Resources Plc


Sustainability Governance System

**Technical Standard
Biodiversity Management**

Technical Standard– Biodiversity Management

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Authorised by:	Roma Balwani
Signature	
Position:	Head - Sustainable Development and Communication

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Technical Standard– Biodiversity Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	7
4.1. General Requirements	8
4.2. Existing Operations	8
4.2.1. Biodiversity Risk Screening Assessment	8
4.2.2. Biodiversity Management Plan	9
4.2.3. Legal and Other Requirements	10
4.2.4. Biodiversity Gains and Offsets	11
4.2.5. Measuring and Monitoring	12
4.2.6. Knowledge and Awareness	12
4.3. New Projects	12
4.3.1. Impact Assessment	13
4.3.2. Biodiversity Management Plan	13
5. ROLES AND RESPONSIBILITIES	14
6. COMPLIANCE AND PERFORMANCE	14
7. SUPPORTING INFORMATION	15
8. REVIEW	16
9. RELATED DOCUMENTATION	16

Technical Standard– Biodiversity Management

1. INTRODUCTION

Protecting and enhancing biodiversity is an integral part of Vedanta’s commitment to sustainable development. In recognition of this commitment and in accordance with our biodiversity policy this Standard aims to facilitate the integration of biodiversity and ecosystem service conservation into decision making processes for new and existing projects and/or operations and to help ensure that all necessary measures are taken to avoid, minimize and in some cases compensate for the impacts of our projects. The assessment and management of biodiversity and ecosystem service impacts shall be considered as part of the overarching environmental and social impact assessment and therefore this document should be read in conjunction with the *Conducting ESIA to International Standards Technical Standard*.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractors working on Vedanta projects. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure). This Technical Standard should be considered with reference to the *Vedanta Biodiversity Management Policy*.

3. DEFINITIONS

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

Term	Definition
Affected Communities	Local communities directly affected by the new or existing project.
Alien (Non-Native) Species	An alien or non-native plant or animal species is one that is introduced beyond its original range of distribution.
Baseline Biodiversity Survey	A survey of the habitats and species in the project area to determine the biodiversity baseline and may include identification of Legally Protected Areas and Internationally Recognised Areas, critical and endangered habitats, natural and disturbed habitats, and alien (non-native) species of flora and fauna and shall address biodiversity attributes of all forms (e.g. water, land, flora, fauna, etc.).
Biodiversity	The variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems (<i>cf.</i> United Nations Convention on Biological Diversity).
Biodiversity Management Plan (BMP)	A document that sets out the organisational arrangements to eliminate, minimize, mitigate and manage impact to all biodiversity attributes associated with an operation or new project. The plan shall

Technical Standard– Biodiversity Management

Term	Definition
	be commensurate with the level of risk identified.
Critical Habitat	Critical habitats are areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat of significant importance to globally significant concentrations of migratory species and/or congregatory species; (iv) regionally significant and/or highly threatened or unique ecosystems; and/or (v) areas which are associated with key evolutionary processes (IFC Performance Standard Guidance Note 6).
Critically Endangered and Endangered species	Species listed on the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species.
Cumulative Impacts	Based on the IFC description, cumulative impacts are those that result from the incremental impact of the project when added to other existing, planned and reasonably predictable future projects and developments.
Direct Impacts	Based on the IFC description, direct impacts are impacts that result directly from project activities, such as habitat loss and disturbance, emissions and effluents, alterations of hydrology and land forms, loss of ecosystem services or access to such services, etc.
Ecosystem Services	The benefits that people, including businesses, derive from ecosystems. Ecosystem services are organized into four types of services: (i) provisioning services, which are the products people obtain from ecosystems; (ii) regulating services, which are the benefits people obtain from the regulation of ecosystem processes; (iii) cultural services, which are the nonmaterial benefits people obtain from ecosystems; and (iv) supporting services, which are the natural processes that maintain the other services (IFC Performance Standard Guidance Note 6).
ESIA (Environmental and Social Impact Assessment)	A formalised process designed to identify and assess environmental and social impacts associated with a project, along with the mitigation measures and management arrangements for ensuring such measures are implemented.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies as well as 30 national and regional mining associations and global commodity associations.
IFC (International	Member of the World Bank that finances and provides advice to

Technical Standard– Biodiversity Management

Term	Definition
Finance Corporation)	private sector ventures and projects in developing countries.
Indirect Impacts	Based on the IFC description, indirect impacts are impacts that result indirectly from project activities, such as accidental introductions of alien invasive species, project-induced access by third parties, in-migration and associated impacts on resource use.
Internationally Recognised Area	Exclusively defined as UNESCO Natural World Heritage Sites, UNESCO Man and the Biosphere Reserves, Key Biodiversity Areas, and wetlands designated under the Convention on Wetlands of International Importance (the Ramsar Convention)(IFC Performance Standard Guidance Note 6).
IUCN (International Union for Conservation of Nature)	A democratic membership union with more than 1,000 government and NGO member organizations, and almost 11,000 volunteer scientists in more than 160 countries which supports scientific research, manages field projects all over the world and brings governments, non-government organizations, United Nations agencies, companies and local communities together to develop and implement policy, laws and best practice.
'Like for Like or Better' Principle	In relation to biodiversity offsets, the adoption of this principle indicates that the offset must be designed to conserve the same biodiversity values that are being impacted by the project (an "in-kind" offset) or, that where the biodiversity to be impacted by the project may be neither a national nor a local priority, and there are other biodiversity attributes of higher priority for conservation or need of protection, an "out-of-kind" offset that involves "trading up" may be designed (IFC Performance Standard Guidance Note 6).
Legally Protected Area	A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (IUCN definition).
Mitigation Hierarchy	The prioritised list of mitigation measures that shall be used to determine the most appropriate measures for mitigating impact on biodiversity attributes. The hierarchy starts with elimination of impact, followed by use of engineering controls to reduce at source, impact reduction measures, offsetting and restoration of damage caused by the project.
Modified Habitat	Areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area's primary ecological functions and species compositions. Modified habitats may include areas managed for agriculture, forest plantations, reclaimed coastal zones, and reclaimed wetlands(IFC Performance Standard Guidance Note 6).

Technical Standard– Biodiversity Management

Term	Definition
Natural Habitat	Areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species compositions(IFC Performance Standard Guidance Note 6).
Offset	Measurable conservation outcomes resulting from actions designed to compensate for significant adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimization and restoration measures have been taken(IFC Performance Standard Guidance Note 6).
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Project	Any planned or proposed change to either an existing site or to a Greenfield, undeveloped site which may be small, medium or large in scale – for example ranging from a building extension on an existing site, to construction of a facility comprising office buildings, to development of a new mine.
Residual Impacts	Residual impacts are significant project-related biodiversity and ecosystem services impacts that remain after on-site mitigation measures have been implemented.
Social and Environmental Management System (SEMS)	A SEMS defines the Company's organizational structure, responsibilities, practices and resources for managing and monitoring its activities and performance on social and environmental issues.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.).

4. PROGRAMME REQUIREMENTS

All Vedanta subsidiary companies and operations are required to follow the requirements listed below with regards to the mechanisms for identifying, evaluating, preserving, protecting and managing biodiversity that may be impacted by an existing or proposed Vedanta operation, facility or project.

Technical Standard– Biodiversity Management

4.1. General Requirements

- a) Arrangements shall be created, implemented and maintained so that the requirements of applicable local, regional, national legislation are complied with.
- b) Arrangements shall also be implemented to ensure conformance to the requirements of the *IFC Performance Standards*.
- c) The key IFC provisions are summarised as follows:
 - *Performance Standard 1 – Assessment and Management of Social and Environmental Risks and Impacts* – The objectives of this standard are to identify and assess social and environment impacts, both adverse and beneficial, in the project’s area of influence; to avoid, or where avoidance is not possible, minimize, mitigate, or compensate for adverse impacts on workers, affected communities, and the environment; to ensure that affected communities are appropriately engaged on issues that could potentially affect them and to promote improved social and environment performance through the effective use of management systems. The key considerations in so far as they relate to this Technical Standard are: the need to undertake a risk and impact assessment; the need for a management programme of mitigation and performance improvement measures; community engagement; monitoring and reporting, and
 - *Performance Standard 6 – Biodiversity Conservation and Sustainable Natural Resource Management* – The objectives of this standard are to protect and conserve biodiversity and to promote sustainable management and use of natural resources through the adoption of practices that integrate conservation needs and development priorities. The key considerations in so far as they relate to this Technical Standard are: biodiversity impact assessment; impact management / mitigation in areas of modified, natural and critical habitats; protection, promotion and enhancement of Legally Protected and Internationally Recognised Areas; and control against the introduction of invasive alien (non-native) species.

4.2. Existing Operations

This section is relevant to all of Vedanta’s existing operations including but not limited to offices, manufacturing sites, distribution infrastructure, mines, etc.

4.2.1. Biodiversity Risk Screening Assessment

- a) All Vedanta Companies shall conduct a basic screening assessment to identify known or suspected sensitive biodiversity areas and ecosystem services within each owned/managed operation and facility, as well as identify areas outside the footprint that may be impacted as a result of operations.
- b) This screening assessment shall be achieved using for example the IBAT (or other internationally recognised proprietary) database as well as by referring to other available sources of information as appropriate such as government management strategies or action plans, media and the internet to determine the need and priority to further examine biodiversity and ecosystem services issues on the basis of their value. Any Legally Protected Areas, Internationally Recognised Areas, Globally Important Sites for Biodiversity shall be identified during the screening assessment and managed accordingly (see Sections 4.2.2 and 4.2.3 below).

Technical Standard– Biodiversity Management

The distance criteria used in the screening assessment (using IBAT or another internationally recognised tool) should reflect the true area of influence of an active mine / operation or a proposed project. The screening tool should be able to identify a potential 'critical habitat' as required by IFC Performance Standard 6.

- c) Where operations are likely to adversely impact ecosystem services, a review of priority ecosystem services shall be undertaken. These include 1) ecosystem services most likely to be impacted by Operations, resulting in adverse impacts to Affected Communities, and 2) ecosystem services on which operations depend.

Priority ecosystem services shall be identified through desk-based research and consultation with relevant stakeholders that may include local communities, NGOs, and government bodies, as well as sponsors or managers of local areas designated to be of biodiversity and ecosystem services importance. An ecosystem dependency and impact assessment may be conducted in order to identify critical ecosystem services in the area.

- d) The outcome of this exercise shall be a prioritised list of all sites on the basis of risk. Sites situated in an area of high biodiversity value and/or sites that support vulnerable ecosystem services, and sites that are located outside an area of high biodiversity value but which have the potential to impact such an area will be classified as high risk. Medium risk sites shall be deemed to be sites that have limited potential to adversely impact biodiversity or ecosystem services due to either the nature of the existing biodiversity or ecosystem services, or due to their distance from such areas. All other sites will be deemed to be low risk sites.

With regards to identification of potential a critical habitat, the screening exercise should be considered only as a preliminary screening. Further interpretation, consultation with experts and detailed research is required with regards to any National / International protected or recognised areas, in order to fully determine whether a habitat is indeed 'critical'.

- e) On the basis of the assigned priority rating of each site a Biodiversity Management Plan (BMP) shall be prepared and implemented to manage and mitigate impacts on biodiversity attributes.
- f) Reference shall be made to the Biodiversity Screening Assessment Guidance for further guidance on the methodology.

4.2.2. Biodiversity Management Plan

- a) All operations shall develop, implement, and maintain a Biodiversity Management Plan (BMP) to eliminate, minimize, mitigate and manage impact to all biodiversity attributes. Risk management measures outlined in the BMP shall be commensurate with the level of risk identified during the Biodiversity Risk Screening Assessment.
- b) For operations and facilities that have been identified as high risk, the collection of further information shall be undertaken in order to inform the development of the BMP.

For critical habitat determination, a more robust approach for new projects with a clearly documented output is to be adopted (due to the increasing reluctance amongst Lenders to invest in any projects which will seriously degrade such habitats and/or result in a net loss of critically endangered or endangered species).

- c) For high risk operations and facilities, the BMP shall include provision for the following issues. For medium and low risk facilities the following issues may be included as appropriate on the basis of an assessment of local needs and requirements.

Technical Standard– Biodiversity Management

- Contribution to, and conformance with, any national and international biodiversity strategies and action plans relating to the biodiversity attribute(s) of legally protected or internationally recognised area(s) identified in the risk screening exercise and the attribute(s) outside these areas that may also be vulnerable to impact;
 - Development of sustainable land management practices in partnership with local communities;
 - Integration of biodiversity conservation with business needs through the project lifecycle, including decommissioning, closure and rehabilitation;
 - Operational activities and arrangements for preventing the discharge of harmful substances and introduction of invasive species into the environment;
 - Habitat protection and restoration, land disturbance and rehabilitation;
 - Planning and preparation for potential climate change impacts that could disrupt or change the availability of ecosystem services utilised by the site;
 - Changes in biodiversity attributes arising from project and non-project factors;
 - Arrangements for adapting management and mitigation responses as necessary to accommodate changes in biodiversity attributes;
 - Societal values and conflicting uses in the context of ecosystem services, as determined through stakeholder consultation and an assessment of ecosystem impacts and dependencies;
 - Affected communities' ownership and access rights to ecosystem services, as determined through stakeholder consultation and an assessment of ecosystem impacts and dependencies;
 - Impacts on landscape / ecological processes as a result of site operations and activities;
 - Transboundary impacts, and
 - Cumulative effects.
- d) The BMP shall detail the arrangements for the periodic internal and external reporting (as required) of the impact management activities.
- e) The BMP shall detail arrangements in place to ensure that primary suppliers of commodities and products are evaluated such that supply chain risk in relation to habitat destruction and biodiversity loss is minimised (See also Vedanta Technical Standard TS06 on *Supplier and Contractor Management*).
- f) The BMP shall be integrated into an Environmental and Social Management Plan where appropriate (See also the Vedanta Technical Standard TS08 on *Conducting ESIA's to International Standards*).

4.2.3. Legal and Other Requirements

- a) All Vedanta Companies shall identify all relevant local, regional and national legislative requirements on land management and biodiversity conservation that are relevant to each of its owned and/or managed operations and facilities.
- b) Arrangements shall be established to ensure compliance with all such requirements, and to surpass them where practicable.

Technical Standard– Biodiversity Management

- c) All applicable international conventions shall be identified and complied with in all jurisdictions in which it operates.
- d) All Vedanta Companies with operations located within 5km of an Internationally Recognised Area or Legally Protected Area shall:
 - Demonstrate that the proposed development is legally permitted;
 - Follow any government-recognised management plans for the area;
 - Consult with stakeholders including protected area sponsors and managers, Affected Communities, and Indigenous Peoples on the proposed project; and
 - Implement additional programs to promote and enhance conservation in the area.

Operations planned to take place within such areas shall secure the necessary approvals for activities from the responsible government agencies, and shall ensure that project activities and biodiversity and ecosystem services management are consistent with any national land use, resource use, and management criteria for the area. All relevant stakeholders shall be consulted, including (but not limited to) protected area sponsors, Affected Communities, and Indigenous Peoples.
- e) Natural habitats shall not be degraded unless Vedanta Companies can demonstrate that there is no viable alternative area of modified habitat for development, and that stakeholder consultation has established the views of stakeholders on the proposed development.
- f) Vedanta shall consider opportunities to enhance habitat and protect and conserve biodiversity in modified and natural habitats as part of their operations beyond the scope of legal compliance and the requirements of international standards.
- g) Vedanta Companies shall take measures to prevent the introduction of invasive alien (non-native) plant or animal species, or pests and pathogens, to the site. Vedanta Companies must:
 - Ensure that there is no deliberate introduction of highly invasive alien species (even if this is permitted under existing regulatory frameworks);
 - Conduct a risk assessment to determine the potential for invasive behaviour prior to the introduction of any alien species, and ensure that any such introductions are carried out in accordance with the relevant existing regulatory frameworks;
 - Implement measures to avoid any accidental introductions of alien species for example through transportation of soils and sediments, plant materials, or ballast water; and
 - Endeavour not to spread alien species already established in the region into new areas, and take measures to eradicate any such species in the site as practicable.

4.2.4. Biodiversity Gains and Offsets

- a) Net positive gains shall be designed for any critical habitat impacts that cannot be avoided.
- b) Mechanisms shall be created and implemented to achieve no net loss and to improve biodiversity wherever possible.
- c) The mitigation hierarchy shall be followed when managing biodiversity impacts. Avoidance and then mitigation of negative impacts shall be prioritised as far as possible. Biodiversity offsets shall be a final resort for compensating for any impacts that remain after avoidance and mitigation measures have been implemented. The consideration of offset mechanisms

Technical Standard– Biodiversity Management

shall adhere to the 'like-for-like or better' principle and shall conform to legal requirements and international best practice standards.

- d) The offset package shall consider as relevant and appropriate the provision of compensation packages for Affected Communities impacted by the development project and offset.

4.2.5. Measuring and Monitoring

- a) Using the GRI Mining and Metals Sector Supplement (GRI version 3 Indicator Protocols Set – Environment - Mining and Metals Sector Supplement) each Vedanta Company shall monitor performance in managing biodiversity issues.
- b) Each Vedanta Company shall develop performance indicators on the basis of corporate and legal requirements and using the following GRI Mining and Metals Performance Indicators:
- EN11 – Location and size of land owned, leased, managed in, or adjacent to, protected areas of high biodiversity value outside protected areas;
 - EN12 – Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas;
 - MM1 – Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated;
 - EN13 – Habitats protected or restored;
 - EN14 – Strategies, current actions, and future plans for managing impacts on biodiversity;
 - MM2 – The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number (percentage) of those sites with plans in place;
 - EN15 – Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.
- c) On the basis of the risk classification, each operation or facility shall establish arrangements for monitoring its performance against the relevant indicators established by the Company.

4.2.6. Knowledge and Awareness

- a) Arrangements shall be implemented to support biodiversity, ecosystem services and conservation research efforts carried out by local, regional and national research groups in order to further knowledge and understanding of biodiversity attributes in Vedanta's areas of operation.
- b) Mechanisms shall be created and implemented to provide information and raise awareness among employees, customers and suppliers and other stakeholders to enhance knowledge and understanding of biodiversity and conservation issues.

4.3. New Projects

- a) For any new project that is planned, an initial assessment shall be undertaken to determine if it will be necessary to undertake a formal international standard Environmental and Social

Technical Standard– Biodiversity Management

Impact Assessment (ESIA). Reference shall be made to the provisions of local legislative requirements and to the IFC Performance Standard PS1 on the Assessment and Management of Social and Environmental Risks and Impacts.

- b) For projects that require an ESIA the *Technical Standard on Conducting ESIA to International Standards* shall be followed. Reference should also be made to the *Vedanta New Projects, Planning Processes and Site Closure Management Standard*.
- c) For projects that do not fall within the scope of an ESIA (such as a small scale modifications to existing buildings), a biodiversity risk screening assessment shall be undertaken as described in 3.2.1 and the potential impacts subsequently managed as required in accordance with the provisions of a biodiversity management plan as described in Section 3.2.2.

4.3.1. Impact Assessment

- a) The scope of the ESIA will depend on the nature and scale of the project and sensitivities of biodiversity attributes in the project area but in any case shall include:
 - Desktop study and consultations;
 - Baseline biodiversity survey;
 - Assessment of ecosystem services;
 - Impact and dependency assessment;
 - Reporting, and
 - A Biodiversity Management Plan.
- b) For all new projects biodiversity attributes and ecosystem services in the proposed area shall be identified and potential project impacts and dependencies assessed.
- c) The ESIA shall assess both direct and indirect project-related impacts on biodiversity and ecosystem services, and shall identify any significant residual impacts that will remain after mitigation measures have been implemented.
- d) Vedanta shall ensure that the Baseline Biodiversity Survey establishes a core set of biodiversity assessment criteria (indicators) which will form the basis of impact analysis and the definition of mitigation and management measures.

4.3.2. Biodiversity Management Plan

- a) A Biodiversity Management Plan (BMP) shall be prepared for all new projects where a need has been identified during the impact assessment.
- b) The BMP shall detail the actions that are identified during the impact assessment to prevent, minimise and mitigate impact to vulnerable biodiversity attributes and priority ecosystem services during the project lifecycle.
- c) The BMP shall include as appropriate those considerations detailed in Section 3.2.2 (for biodiversity management associated with existing projects) as well as other considerations that arise out of the impact assessment and mitigation planning for the new project.
- d) The BMP shall also include other items as necessary to ensure conformance with Vedanta's Biodiversity Management Policy.

Technical Standard– Biodiversity Management

- e) The BMP shall be integrated into the Environmental and Social Management Plan described in the *Technical Standard on Conducting ESIA to International Standards*.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- A biodiversity assessment comprising at a minimum a desk study, stakeholder consultations and baseline survey is undertaken for every potential project.
- Stakeholder engagement must be included as an essential component of the assessment and involves Affected Communities where they exist within the project area.
- The competence and credibility of all specialists (internal and external) that contribute to the biodiversity assessments and impacts management must be able to present evidence (such as training, certification, etc) to demonstrate this.
- The decision-making process involved in determining the need for a risk and impacts identification and assessment process and of the communication of the results to all stakeholders is fully documented.
- A Biodiversity Management Plan is documented and evidence of implementation and tracking of implementation is available.
- The data and findings of the impact assessment and management plan must be disclosed formally either as standalone reports or within the ESIA disclosure report and in a manner and form that is accessible to all stakeholders.
- Clear and transparent evidence of the adoption of the mitigation hierarchy must be available to support the proposed impacts management arrangements.
- All management and monitoring arrangements must be actively maintained and implemented and documentary evidence kept to demonstrate this.

Technical Standard– Biodiversity Management

7. SUPPORTING INFORMATION

Reference	Description
A-Z Areas of Biodiversity Importance	Developed by the UNEP World Conservation Monitoring Centre (WCMC) and partners, the A to Z is an online guide with detailed information for a number of recognized systems to prioritize and protect areas of biodiversity importance that fall into two main categories: areas under protected area frameworks that are supported by national or sub-national institutions as well as international conventions and programs, and global prioritization schemes that are developed by academic and conservation organizations. http://www.biodiversitya-z.org/
CITES – The Convention on International Trade in Endangered Species of Wild Fauna and Flora	CITES is an international agreement aimed at ensuring that international trade in specimens of wild animals and plants does not threaten their survival. Around 25,000 plant species and 5,000 animal species are covered by the provisions of the Convention. The CITES website provides substantial resources on endangered species. http://www.cites.org/index.html
FAO Forest Assessments, The Nature Conservancy, NatureServe, Global Forest Watch, Conservation International, the GEO GEOSS Africa Ecosystem Mapping Project.	Regional ecosystem mapping systems have been developed by these organisations for particular ecosystems and/or geographies and should be consulted as part of the baseline desk study as appropriate for the proposed project area.
Global Reporting Initiative (GRI)	The Global Reporting Initiative (GRI) is a network-based organization that produced an internationally applicable sustainability reporting and disclosure framework. The GRI periodically updates the framework and also provides sector-specific guidance on its application to environmental, social and governance performance. http://www.globalreporting.org/Home
Integrated Biodiversity Assessment Tool (IBAT)	A tool designed to facilitate access to accurate and up-to-date biodiversity information to support critical business decisions. The tool is the result of a ground-breaking conservation partnership among BirdLife International, Conservation International, IUCN and UNEP WCMC. https://www.ibatforbusiness.org/
IFC Biodiversity Guide	Provides further information to guide IFC clients in the development of Biodiversity Action Plans and also provides further information on how businesses can address biodiversity in their business activities. http://www.ifc.org/ifcext/sustainability.nsf/Content/BiodiversityGuide

Technical Standard– Biodiversity Management

Reference	Description
IFC Performance Standards Guidance Notes	Provides detailed guidance for adopting and implementing the requirements of the different Performance Standards. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards
World Heritage Convention– The Convention Concerning the Protection of World Cultural and Natural Heritage (UNESCO, 1972)	Aims to identify and conserve the world’s cultural and natural heritage. Its World Heritage List contains sites of outstanding cultural and natural value. http://whc.unesco.org/en/conventiontext

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
MS 03	New Projects, Planning Processes and Site Closure
TS 05	Stakeholder Engagement
TS 08	Conducting ESIA to International Standards
TS 06	Supplier and Contractor Management
GRI version 3	Indicator Protocols Set – Environment - Mining and Metals Sector Supplement
IFC Performance Standard PS1 and Guidance Note GN1 (v.1)	Performance Standard and Guidance Note 1 on the Assessment and Management of Social and Environmental Risks and Impacts.
IFC Performance Standard PS6 and Guidance Note GN6 (v.1)	Performance Standard and Guidance Note 6 on Biodiversity Conservation and Sustainable Management of Living Natural Resources.

Technical Standard – Conducting ESIA to International Standards

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Conducting ESIAs to International Standards

Technical Standard – Conducting ESIA to International Standards

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Authorised by:	Tony Henshaw
Signature	
Position:	Chief Sustainability Officer

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Technical Standard – Conducting ESIA to International Standards

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Expertise	8
4.3. Permitting and Approval of Assessment Studies	8
4.4. Desk-Based Screening Exercise	8
4.5. Consideration of Alternatives	9
4.6. Scoping	10
4.7. Baseline Data Collection	10
4.8. Assessment of Significance of Risks and Impacts	11
4.9. Unanticipated issues	13
4.10. Stakeholder Engagement Plan	13
4.11. Environmental and Social Management Plan (ESMP)	14
4.12. Environmental and Social Management System (ESMS)	14
5. ROLES AND RESPONSIBILITIES	15
6. COMPLIANCE AND PERFORMANCE	15
7. SUPPORTING INFORMATION	16
8. REVIEW	16
9. RELATED DOCUMENTATION	16

Technical Standard – Conducting ESIA to International Standards

1. INTRODUCTION

The purpose of this Technical Standard is to guide non-technical specialists through the process of commissioning and managing Environmental and Social Impact Assessments (ESIAs) in order to ensure that they meet international standards. This is particularly relevant for projects located in regions where country specific impact assessment legislation may be weak in comparison with the requirements of international standards, and for projects which are likely to require international project finance.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Action Plan	A formalised and documented set of actions necessary to implement and maintain mitigation measures required to address the impacts identified and assessed in the ESIA.
Affected Communities	Local communities directly affected by the new or existing project.
Baseline Data Collection	One of the earliest stages in the ESIA process during which baseline data is collected on current (i.e. pre-development) environmental and social conditions.
Cumulative Impact	A combination of individual impacts which may present more significant positive or negative impact than any of the individual potential impacts if considered in isolation.
Environmental and Social Management System	The structured framework that provides the arrangements for managing the environmental and social aspects throughout the lifetime of the project.
ESIA	Environmental Social Impact Assessment – a formalised process designed to identify, assess and document environmental and social impacts associated with a project, along with the mitigation measures and management arrangements for ensuring such measures are implemented.
Grievance	A concern or complaint raised by any stakeholder either affected or interested in company operations. Both concerns and complaints can result from either real or perceived impacts of a company's

Technical Standard – Conducting ESIA to International Standards

Term	Definition
	operations.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Impact	Environmental and social impacts refer to any potential change to the physical, natural, or cultural environment, surrounding community, or health and safety of the community.
Impact Assessment	The stage in the ESIA in which the potential positive and negative impacts on the various environmental and social receptors identified during the baseline data collection phase are assessed to determine their significance.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Receptor	An entity that may be subject to either adverse or positive impact arising from the project. In the context of this document the receptor may be either environmental or social in nature.
Residual Impacts	The remaining positive and negative impacts on environmental / social receptors following implementation of mitigation / reduction measures.
Scoping Exercise	This is the initial phase of an ESIA and comprises the identification of the key potential significant impacts of the project that will require further investigation and assessment. The Scoping Exercise will define and justify what will and will not be covered in the later stages of the ESIA.
Social Conditions	This includes, but is not limited to, community, health, safety and security, human rights, labour and working conditions associated with a proposed project.
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and international third parties.
Stakeholder	An umbrella term encompassing a range of activities and

Technical Standard – Conducting ESIA to International Standards

Term	Definition
Engagement	<p>interactions between Vedanta and its stakeholders over the life of a project that are designated to promote transparent, accountable, positive, and mutually beneficial working relationships.</p> <p>Stakeholder engagement includes stakeholder identification and analysis, information disclosure, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.</p>
Stakeholder Engagement Plan	A document that guides stakeholder consultations and communications during the period of the main ESIA studies and other aspects of the project analysis and design. It should also be updated toward the end of the ESIA studies to provide a roadmap for engagement in monitoring the effectiveness of impact mitigation measures.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)

4. PROGRAMME REQUIREMENTS

An Environmental and Social Impact Assessment (ESIA) aims to predict and evaluate the significance of positive and negative impacts to the environment and people from a proposed project. Usually an impact assessment is a legal requirement as well as typically being required as a condition of international project finance for new projects of a certain size or significant expansion of existing operations¹. The requirements described below shall be followed by all Vedanta subsidiary companies and operations with regards the commissioning and management of ESIA's.

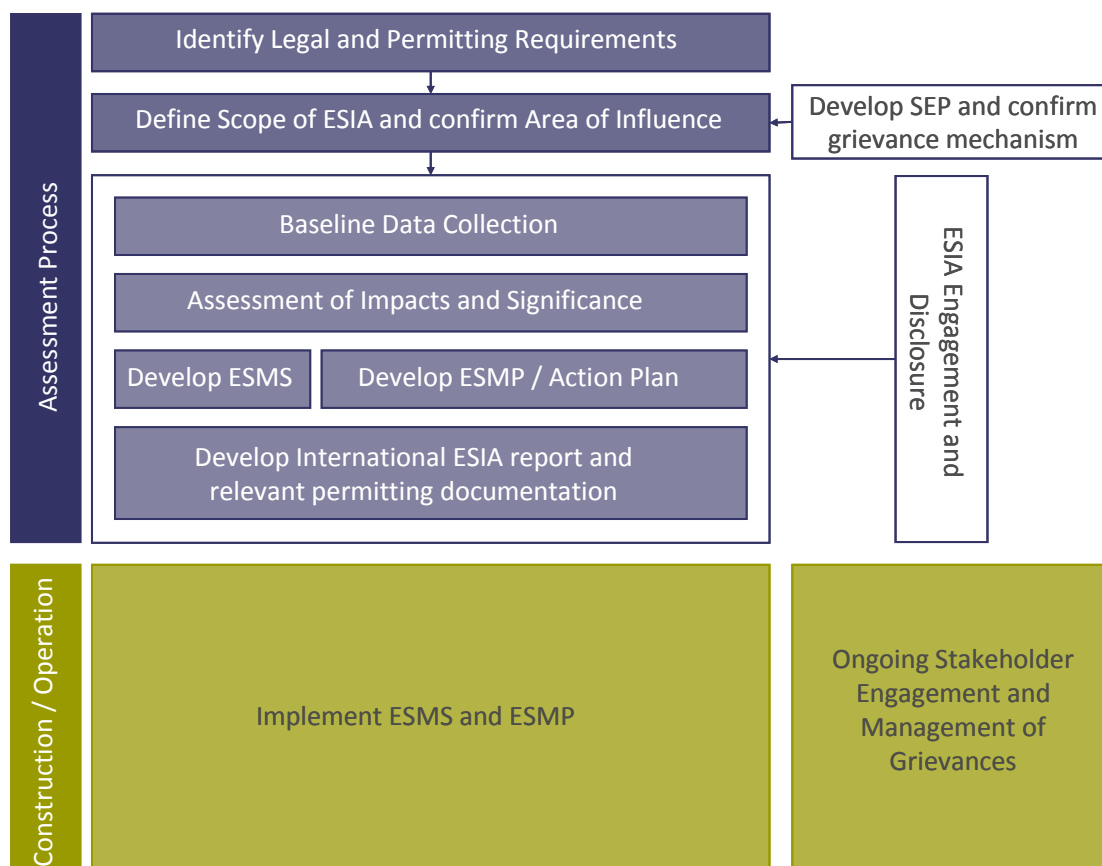
4.1. General Requirements

- a) Vedanta shall ensure that the requirements of this Technical Standard are adhered to as part of every potential new project or expansion activity and during the lifetime of every project in order to ensure that environmental, social and health impacts are systematically considered in all business decisions.
- b) All Vedanta operations shall create, implement and maintain arrangements to perform an international standard ESIA for every potential eligible new project or expansion of existing operations, and as part of business decision-making.

¹ Not all projects require an ESIA to be undertaken. This requirement will depend on the size and/or type of project, and the likelihood of significant environmental and social impacts arising from it. Many countries provide a schedule of projects which require an ESIA. The IFC also gives guidance on this subject. The requirement for an ESIA is usually determined at the Screening stage.

Technical Standard – Conducting ESIA to International Standards

- c) A desk-based screening exercise shall be undertaken as early on in the project planning process as possible, to evaluate the environmental and social impacts of the proposed project option and determine whether or not an ESIA is required. Screening shall be undertaken for all new potential projects to identify significant potential negative impacts that may make the proposed project option unviable.
- d) In the event that screening identifies significant negative environmental and social impacts associated with the preferred project options, alternative options should be considered in order to avoid these impacts.
- e) Once the project option has been selected, the project scope and area of influence shall be defined prior to commencing with the ESIA, in order to identify key issues. This should be done in consultation with key stakeholders.
- f) The ESIA shall comprise baseline data collection; impact assessment; development and implementation of an action plan and Environmental and Social Management Plan. Stakeholder engagement should take place throughout the ESIA process, as early as possible and ideally from the scoping stage. As part of this, the documented ESIA and other documentation that are part of the consultation process (including stakeholder consultation) shall be made publicly available. The general framework of the ESIA shall take the following form:



Technical Standard – Conducting ESIA to International Standards

4.2. Expertise

- a) Qualified and competent ESIA expert(s) shall be appointed to manage the overall ESIA process with full involvement and contribution by Vedanta project planning, subject matter experts, engineering staff and others throughout the process as appropriate.
- b) Vedanta may use in-house staff and/or external consultants or experts to carry out the risks and impacts identification process, provided that the applicable requirements of the performance Standards are met.
- c) The in-house staff or external personnel conducting the risks and impacts identification process shall be in a position to do so adequately, accurately and objectively, as well as have the requisite competency and experience.
- d) For projects with issues that may pose significant adverse impacts and risks, Vedanta shall (and may be required to) retain qualified external experts to assist in the conduct of all or part of the social and environmental assessment. These experts to be considered qualified for this requirement will be required to have substantive and extensive experience in similar projects.
- e) Qualified external experts are typically required in certain defined circumstances, on issues concerning resettlement (as provided in IFC Performance Standard 5), Biodiversity (as provided in IFC Performance Standard 6), Indigenous Peoples (as provided in IFC Performance Standard 7) and Cultural Heritage (as provided in IFC Performance Standard 8)
- f) ESIA experts shall be appointed at the pre-feasibility stage and shall be included on the project study team as the project moves from screening through to pre-feasibility, feasibility and planning. The purpose of appointing an external expert is to ensure not only expertise but impartiality throughout the assessment process.
- g) Vedanta shall maintain a list of approved external experts and this may include international consultancy firms, local consultancy firms, university departments and research institutions.

4.3. Permitting and Approval of Assessment Studies

- a) Vedanta shall identify all legal and formal permitting requirements and other formal permission(s) required prior to carrying out any survey work required for the ESIA.
- b) Vedanta shall create, implement and maintain arrangements to ensure compliance with any necessary permits and other formal requirements.
- c) Vedanta shall ensure that both the surveys and the individuals performing such studies meet any specific requirements that may be imposed.

4.4. Desk-Based Screening Exercise

- a) A desk-based screening exercise to determine whether or not the proposed project is likely to have significant social and environmental impacts) that will require further investigation and assessment through an ESIA.

Technical Standard – Conducting ESIA to International Standards

- b) The initial screening of the project shall be performed against the applicable local laws and regulations and the IFC Performance Standards which set out which projects will trigger the requirement for an ESIA. .
- c) The desk-based screening exercise shall consult secondary sources of information including but not limited to: internet-based searches; proprietorial information; academic research papers and publications; archives, museums and libraries (public and/or private); and applicable plans, studies, or assessments prepared by relevant government authorities or other parties that are directly related to the project and its area of influence. These include master economic development plans, country or regional plans, feasibility studies, alternatives analyses, and cumulative, regional, sectoral, or strategic environmental assessments where relevant. This screening exercise should, as a minimum, include a search/review of the information provided in the screening checklist provided in *Annex A*.
- d) The project screening scope should include the project base-case design assumptions or project plan and any other relevant information that may influence the severity of potential impacts and help to inform business and mitigation assumptions.
- e) Based on the severity of the impacts identified in this screening exercise the project shall be categorised on the basis of the IFC categorisation protocol for the purposes of internal guidance and to aid project selection². It should be noted that the IFC F1 project category is excluded from this list as it is used as a means of categorising projects on the basis of their source of funding and not on the basis of the level of potential environmental impact. The IFC Categories A to C are described below:
 - **Category A project:** a project likely to have significant adverse environmental (and social) impacts that are sensitive, diverse or unprecedented;
 - **Category B project:** a project with potential environmental (and social) impacts that are less adverse than those of Category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigatory measures can be designed more readily than for Category A projects;
 - **Category C project:** a project that is likely to have minimal or no adverse impacts. This includes certain financial intermediary projects.

4.5. Consideration of Alternatives

- a) If the initial screening indicates potential risks and adverse impacts, consideration should be given to modifications in project design and/or project alternatives to reduce or eliminate these risks. The best project option should be selected at this stage.

² It should be noted that if the project is to receive direct IFC funding it will be categorised by the IFC as follows and likewise if the project is to be indirectly funded by the IFC (for example through a financial intermediary) it will be categorised as an F1 project if environmental impacts are anticipated.

Technical Standard – Conducting ESIA to International Standards

4.6. Scoping

- a) Once the preferred project option has been identified, and presuming it has identified the need for an ESIA, the scoping exercise shall clearly define and justify what will and will not be covered in the ESIA. As appropriate and relevant to the project, the screening exercise should include consideration of the following environmental and social indicators although this list is not exhaustive and other subject matter may need to be included on the basis of the screening exercise:
 - a. Air quality;
 - b. Water quality;
 - c. Soil/land impacts;
 - d. Biodiversity (including critical natural habitats);
 - e. Visual impacts;
 - f. Noise;
 - g. Local communities (including Indigenous Peoples);
 - h. Cultural heritage;
 - i. Security;
 - j. Socio-economic factors; and
 - k. Occupational health and safety.
- b) The Scoping Exercise should be undertaken in consultation with key stakeholders to obtain their input to identifying key issues at this stage.

4.7. Baseline Data Collection

- a) This is the stage at which baseline data is collected on current (i.e. baseline or pre-development) environmental and social conditions in order to support the identification of the risks and impacts associated with the proposed project.
- b) Vedanta shall ensure that the baseline study includes:
 - All relevant environmental and social baseline data, including any environmental and social receptors that have the potential to be positively or negatively impacted by project activities;
 - Identification and description of Affected Communities;
 - A description of the methodologies used to collect baseline information and the limitations and assumptions upon which these were based, and

Technical Standard – Conducting ESIA to International Standards

- Disclosure of the age (i.e. whether it is current / recent) and the sources from which data was gathered (e.g. secondary sources such as government development plans; and primary sources such as household surveys).

4.8. Assessment of Significance of Risks and Impacts

- a) The risks and impacts identification process shall be based on recent, up-to-date information, including detailed description of the project in its geographic, ecological, socio-economic, health and temporal context (the environmental and social baseline).
- b) Identification of project- and site-specific risks and impacts shall be based on current and verifiable primary information to supplement the secondary information collected during the desk-based screening exercise. It may also be necessary to collect additional secondary information.
 - The risks and impacts identification process shall consider among other subject matter the following: Environmental factors including: emissions of greenhouse gases and substances harmful to the ozone layer; climate change and adaptation opportunities; potential transboundary effects; resource use;
 - Biodiversity conservation and ecosystem goods and services;
 - Socio-economic impacts;
 - Community health, safety and security;
 - Business and human rights;
 - Disadvantaged and vulnerable groups, including consideration of disability and gender;
 - Indigenous peoples, and
 - Cultural heritage.
- c) Where the project involves specifically identified physical elements, aspects, and facilities that are likely to generate impacts, environmental and social risks and impacts shall be identified in the context of the project's area of influence and shall consider the following, as appropriate:
 - The area likely to be affected by: (i) the project activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project; (ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location; or (iii) indirect project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent;
 - The roles, impacts and risks associated with its supply chain in relation to labour issues (child and forced labour and significant occupational health and safety risks) and biodiversity;
 - Associated facilities, which are facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable, and

Technical Standard – Conducting ESIA to International Standards

- Cumulative impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted.
- d) The risks and impacts identification process and outcomes shall be documented and include the following:
- The project and its environmental and social aspects, including maps and drawings and a delineation or description of the project's area of influence
 - Environmental and health and safety performance levels established for the project, compliance with the legal and regulatory framework, consistent with the applicable Performance Standards
 - Description of the potential positive and negative impacts to the pre-development social and environmental receptors including the identification of Affected Communities as a result of the construction, operation and decommissioning of the proposed development;
 - Determination of the significance of each impact;
 - Proposed mitigation and enhancement measures to avoid, minimise/manage or optimise the identified impacts and any areas of concern that need to be further addressed;
 - Description of residual positive and negative impacts anticipated following the application of the aforementioned mitigation and enhancement measures;
 - The process of stakeholder engagement (see Section 4.8), and
 - The environmental and social management plan (see Section 4.9).
- e) Vedanta shall ensure that the impact assessment is comprehensive and complete and adequately covers the full range of potential impacts to all receptors, and in particular those that are protected or otherwise considered to be valuable. Reference to international standards and best practice guidance shall be included where appropriate.
- f) Vedanta shall ensure that the impact assessment provides an evaluation of the significance of the impact in accordance with a robust methodology and in reference to any relevant legal or other standards; regional, national or international policies and declarations (e.g. in relation to human rights, scheduled tribes and castes or indigenous people).
- g) Vedanta shall ensure that for every significant impact, measures are identified to reduce negative impacts and that enhancement measures which seek to augment positive impacts are identified and incorporated into the project plan.
- h) Significance shall be assessed both before the application of mitigation and enhancement measures and thereafter, to demonstrate the extent to which it is anticipated that impact significance can be affected through management action.

Technical Standard – Conducting ESIA to International Standards

- i) Vedanta shall ensure that the following hierarchy of control is adhered to in the identification of the most appropriate mitigation measures to be adopted in the following order: avoid; abate; attenuate; remedy; compensate for damage by replacement in kind, and compensate for damage by provision of a different resource.
- j) Vedanta shall ensure that the ESIA includes consideration and assessment of cumulative impacts and that the ESIA clearly documents and justifies any decisions to include or exclude certain facilities or areas from the cumulative assessment.

4.9. Unanticipated issues

- a) Vedanta shall ensure that the external experts have measures in place to adequately and appropriately identify and assess any unanticipated issues, such as cultural heritage unexpectedly uncovered by earthworks (*see also TS 01 Cultural Heritage*).
- b) Vedanta shall implement and maintain arrangements for ensuring conformance to the relevant Vedanta Management and Technical Standards.

4.10. Stakeholder Engagement Plan

- a) If Affected Communities have been identified, Vedanta shall engage its experts to develop and implement a Stakeholder Engagement Plan.
- b) If the project location is not confirmed but it is reasonably expected that there will be significant impacts on local communities, a Stakeholder Engagement Plan shall be prepared and implemented as part of the overarching Environmental and Social Management Plan (ESMP) (refer to section 4.9).
- c) Vedanta shall ensure that the Stakeholder Engagement Plan adheres to the requirements of *TS05 Technical Standard Stakeholder Engagement* and that it includes the following:
 - Mechanisms for ensuring compliance with local and international legal requirements;
 - Culturally appropriate engagement process design which seeks to be inclusive of all affected stakeholders;
 - Description of steps to be undertaken in the consultation process;
 - Results of the consultation undertaken during the impact assessment (specifically issues raised and how these were considered in the development of mitigation measures developed);
 - Arrangements for disclosure of the ESIA to stakeholders for their review and the formal documentation of their comments;
 - Grievance mechanism to receive and facilitate resolution of the concerns and grievances of Affected Communities and other stakeholders; and
 - Explanation as to how Affected Communities and other stakeholders are to be informed of this mechanism.

Technical Standard – Conducting ESIA to International Standards

- d) Vedanta shall create, implement and maintain arrangements to keep the Stakeholder Engagement Plan updated and adjusted as the Project progresses, to ensure that effective and meaningful engagement with stakeholders continues throughout the lifetime of the Project.

4.11. Environmental and Social Management Plan (ESMP)

- a) Where the impact assessment has identified specific mitigation measures and actions Vedanta shall prepare an ESMP in collaboration with the key stakeholders.
- b) Vedanta shall ensure that the ESMP includes the following:
 - Summary of impacts;
 - Description of the actions (and their priorities) required to implement mitigation or enhancement measures;
 - Designation of responsible person or parties;
 - A time-line for action implementation;
 - Indicators through which the success of negative impact management or positive impact enhancement can be measured;
 - Description of the schedule and mechanism for external reporting on implementation of the actions.
- c) Vedanta shall make the ESMP or a non-technical summary of it available to the Affected Communities and other stakeholders in a manner and form that is accessible to all stakeholders. This should be reflected in the Stakeholder Engagement Plan.

4.12. Environmental and Social Management System (ESMS)

- a) Vedanta shall design, create and implement or otherwise adapt an existing environmental and social management system to incorporate the following:
 - Mitigation and enhancement measures, as detailed in the ESMP, for managing positive and negative impacts identified through the ESIA process;
 - Arrangements (roles, responsibilities, schedule) for implementing the mitigation measures;
 - Consideration of current and future organisational capacity and training;
 - Stakeholder engagement processes and arrangements; and
 - Mechanisms for monitoring and reporting on impact management.
- b) The ESMS shall be designed as a dynamic and continuous process initiated and supported by management, and shall involve engagement between the site's management team, its employees, any Affected Communities and, where appropriate, other stakeholders.

Technical Standard – Conducting ESIA to International Standards

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- An ESIA is undertaken to international standards for all potential projects.
- A formal and documented mechanism must be established and adequately communicated to manage unanticipated issues.
- A formal and documented Stakeholder Engagement Plan must be prepared and implemented when Affected Communities are identified in the impact assessment process.
- Stakeholder engagement must be included as an essential component of the assessment and involves Affected Communities where they exist within the project area.
- The competence and credibility of all specialists (internal and external) that contribute to the biodiversity assessments and impacts management must be able to present evidence (such as training, certification, etc) to demonstrate this.
- The data and findings of the impact assessment and management plan must be disclosed in a manner and form that is accessible to all stakeholders.
- Clear and transparent evidence of the adoption of the mitigation hierarchy must be available to support the proposed impacts management arrangements.
- All impact management and monitoring arrangements must be actively maintained and implemented and documentary evidence kept to demonstrate this.
- The ESMP must be formally documented and implemented and there must be a regular review according to a defined schedule to ensure it remains current, up-to-date, effective and applicable.

Technical Standard – Conducting ESIA to International Standards

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
International Finance Corporation Performance Standards Guidance Notes	The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions are available however these have not yet been finalised and formally published. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 02	Human Rights Policy
TS 01	Cultural Heritage
TS 03	Land and Resettlement Management
TS 05	Stakeholder Engagement
TS 07	Biodiversity Management
TS 14	Water Management

Technical Standard – Conducting ESIA to International Standards

Annex A

ESIA Screening Checklist

A desk-based screening exercise to determine whether or not the proposed project is likely to have significant social and environmental impacts) that will require further investigation and assessment through an ESIA. The following checklist provides a list of the minimum information that must be reviewed and completed for the proposed project/operation and should be used as a starting point for the ESIA screening exercise.

Subject	Criteria/Material/Significant Issues	Yes	No
Locality	Will construction, operation or decommissioning involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?		
Natural Resources	Will construction or operation use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?		
Substances/Materials	Will the project/operation involve the use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?		
Wastes	Will the project/operation produce solid wastes during construction, operation or decommissioning?		
Pollutants	Will pollutants or any other hazardous, toxic or noxious substances to air be released?		
Noise/vibration	Will the project/operation cause noise or vibration?		
Light/heat/radiation	Will the project/operation cause release of light, heat energy or electromagnetic radiation?		
Contamination	Will the project/operation lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?		
Accidents	Will there be any risk of accidents during construction or operation which could affect human health or the environment?		
Social changes	Will the project/operation result in social changes e.g. in demography, traditional lifestyles, employment?		
Protected areas	Are there any areas on or around the proposed location which are protected under international, national or local legislation for their ecological, landscape, cultural or other value which could be affected?		
Sensitive areas	Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses/waterbodies, coastal zone, mountains, forests or woodlands, which could be affected?		
Fauna and Flora	Are there any areas on or around the location which are used by protected, important or sensitive species of flora or fauna e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected?		
Water	Are there any inland, coastal, marine or underground waters on or around the location which could be affected?		
Scenic value	Are there any areas or features of high landscape or scenic value on or around the location which could be affected?		
Recreation/amenity	Are there any routes or facilities on or around the location which are used by the public/communities for access to recreation or other facilities which could be affected?		
Transport	Are there any transport routes on or around the location which are susceptible to congestion or which could cause environmental		

Technical Standard – Conducting ESIA to International Standards

	<i>problems which could be affected?</i>		
<i>Visibility</i>	<i>Is the proposed project/operation in a location which is likely to be highly visible to many people?</i>		
<i>Cultural heritage</i>	<i>Are there any areas or features of historic, religious or cultural importance on or around the location which could be affected?</i>		
<i>Loss of land</i>	<i>Is the project/operation located in a previously undeveloped area where there will be loss of greenfield land?</i>		
<i>Existing land use</i>	<i>Are there existing land uses on or around the location (e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying) which could be affected?</i>		
<i>Future land use</i>	<i>Are there any plans for future land uses on or around the location which could be affected?</i>		
<i>Built up areas</i>	<i>Are there any areas on or around the location which are densely populated or built-up, which could be affected?</i>		
<i>Sensitive land uses</i>	<i>Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities which could be affected?</i>		
<i>Important Resources</i>	<i>Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected?</i>		
<i>Environmental damage</i>	<i>Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded which could be affected?</i>		
<i>Environmental conditions</i>	<i>Is the project/operation location susceptible to earthquakes, subsidence, landslides, erosion, flooding, or extreme or adverse climatic conditions (e.g. fog, severe winds, temperature inversions)?</i>		
<i>Cumulative impacts</i>	<i>Is there a risk of cumulative impact on areas or resources used or directly impacted by the project, or from other existing, planned or reasonably defined developments?</i>		

Technical Standard – Resource Use and Waste Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Resource Use and Waste Management

Technical Standard – Resource Use and Waste Management

Standard Title:	Resource Use and Waste Management	Date of Revision	21/10/2011
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DATE	REVISION NUMBER	CHANGE SUMMARY
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Technical Standard – Resource Use and Waste Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Principles	7
4.2. Resource Use	8
4.3. Adopting the Waste Hierarchy	9
4.4. Waste Management Planning	10
4.5. Waste Identification and Classification	10
4.6. On-site Handling and Storage of Waste	11
4.7. On-site Waste Treatment and Disposal	12
4.8. Waste Transfer and Off-Site Treatment/Disposal	13
4.9. Monitoring and Record Keeping	14
4.10. Change Management	14
5. ROLES AND RESPONSIBILITIES	14
6. COMPLIANCE AND PERFORMANCE	15
7. SUPPORTING INFORMATION	15
8. REVIEW	16
9. RELATED DOCUMENTATION	16

Technical Standard – Resource Use and Waste Management

1. INTRODUCTION

The purpose of this Technical Standard is to ensure that Vedanta uses resources and manages all of the wastes it produces in ways that minimise the impact on the environment and to human health; and that supports our policies in relation to sustainability and protection of the environment. This Standard supports Vedanta’s *HSE Policy*.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees, contractor employees (working on Vedanta Group sites and transport contractor employees carrying Vedanta wastes) and service suppliers. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Basel Convention	An agreement which creates obligations for the states that have ratified it. The primary aim of the treaty is to control the movement of hazardous waste between nations and specifically to prevent transfer of hazardous waste from developed to less developed countries.
Contractor	Any third party organisation which is engaged or commissioned by Vedanta to undertake work or provide services (such as collection, treatment or disposal of waste).
ESIA	Environmental and Social Impact Assessment – a formalised process designed to identify, assess and document environmental and social impacts associated with a project, along with the mitigation measures and management arrangements for ensuring such measures are implemented.
Hazardous Waste	Wastes listed in Annex I of the Basel Convention and/or those wastes that exhibit one or more of the following characteristics of hazardous waste listed in Annex III of the Convention: <ul style="list-style-type: none"> • explosive, • flammable liquids, • flammable solids, • wastes liable to spontaneous combustion, • substances or wastes which, in contact with water emit flammable gases, • oxidizing, • organic peroxides, • poisonous (acute), • infectious substances, • corrosives, • liberation of toxic gases in contact with air or water,

Technical Standard – Resource Use and Waste Management

Term	Definition
	<ul style="list-style-type: none"> • toxic (delayed or chronic), • ecotoxic, or • capable of yielding another material after disposal, e.g. leachate, which possesses any of the characteristics listed. <p>In addition, any other waste defined as Hazardous by local country legislation shall be assumed to be 'hazardous waste'.</p>
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies, as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Mineral Waste	Waste rock and overburden, tailings and spent heap leach ore from mineral processing, rejects from beneficiation or concentration of minerals, bauxite residue from alumina production, dross, refinery discards and sludges, smelter and other furnace slags, dredging materials and soils contaminated by mineral waste.
MSDS (Material Safety Data Sheet)	A document containing information about a material or chemical including the chemical and generic name of its ingredients, the chemical and physical properties of the substance, health hazard information and precautions for safe use and handling.
Non-mineral Waste	Waste materials other than mineral wastes.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices, and research and development facilities.
Proximity Principle	The proximity principle states that waste should generally be disposed of as near to its place of origin as possible (providing that suitable facilities are available). This is to ensure that potential problems associated with waste disposal are not simply exported to other regions or countries and because transportation of wastes can have a significant environmental impact.
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and interested third parties.
Subcontractor	A contractor directly engaged or commissioned by a principal

Technical Standard – Resource Use and Waste Management

Term	Definition
	contractor to undertake work on behalf of Vedanta.
Supplier	A third party that supplies products, equipment, services or utilities to a Vedanta Company; 'Supplier' is distinguishable from a 'Contractor' which provides people to deliver work or provide a service.
Supply Chain	The movement of materials as they flow from their source to the end customer. Supply Chain includes purchasing, manufacturing, warehousing, transportation, customer service, demand planning, supply planning and management. It is made up of the people, activities, information and resources involved in moving a product from the supplier to customer (the customer being Vedanta).
Sustainability Management System (SMS)	The structured framework that provides the arrangements for managing the environmental, health, safety and social aspects through the lifetime of the project and operation, including closure and decommissioning.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Waste	Any substance (solid, liquid, or contained gaseous material) or object that is being discarded – e.g. by disposal, recycling or incineration.
Waste Transfer Note (WTN)	A multi-part form used to record details of a consignment of waste which travels with the load of waste as it is passed along the chain of custody until reaching its final treatment or disposal point. Each person accepting responsibility for the load of waste must sign the form to acknowledge they have received it.

4. PROGRAMME REQUIREMENTS

This Standard aims to define the minimum processes that need to be established to manage sustainability risks associated with resource use and the management of wastes from Vedanta's activities. The sustainability risks associated with resource use and wastes that Vedanta and its subsidiaries generate will depend on the nature and complexity of the activities being undertaken. The requirements described below shall be followed by all Vedanta subsidiary companies and Operations.

Technical Standard – Resource Use and Waste Management

4.1. General Principles

- a) Vedanta Group and Operations shall ensure that the requirements of this Technical Standard are adhered to in the use of resources and management of all types of Waste to ensure that sustainability related impacts are systematically considered in all business decision-making processes.
- b) Vedanta Group or Operations shall investigate innovative methods where common waste challenges are identified across the Group.
- c) Vedanta recognises the limitations in resource availability, and Operations shall minimise both the use of resources, such as fresh water, energy and materials, and the subsequent generation of waste in all its activities.
- d) Operations shall apply the principles of the Waste Hierarchy in the design and implementation of all of its operations (see Section 4.3). Specifically, the opportunities to eliminate, reduce, reuse, recycle and recover waste wherever practicable shall be identified and implemented. Specific attention shall be focused on hazardous and high volume wastes such as process or mineral wastes although the principles detailed in this Standard shall apply to all types of Waste.
- e) Operations shall manage all unavoidable waste in such a way that the risk of harm to human health is minimised and pollution of the environment is avoided.
- f) Operations shall apply the Proximity Principle, aiming to dispose of all waste as near to its point of origin as possible, taking into account the availability of suitable facilities, in order to minimise the energy, possibility of accident and environmental impact associated with the long distance transport of waste and to ensure that potential problems associated with waste disposal are not simply exported to other regions or countries.
- g) Vedanta shall also meet the requirements of the *IFC Performance Standards*. The waste management-related requirements are summarised as follows:
 - *Performance Standard 1 – Assessment and Management of Social and Environmental Risks and Impacts*. This Standard is also applicable in that it requires an assessment of all the potential environmental impacts of a project and the minimisation and/or mitigation of these impacts. This includes the potential impacts associated with the generation of waste by a project.
 - *Performance Standard 3 – Resource Efficiency and Pollution Prevention*. The generation of hazardous and non-hazardous waste will be avoided or minimised as far as reasonably practicable. Where waste generation cannot be avoided but has been minimised, the waste will be recovered and reused as far as practical. Where waste can not be recovered or reused, it will be treated, destroyed and disposed of in an environmentally sound manner. If the generated waste is considered hazardous, commercially reasonable alternatives for its environmentally sound disposal will be investigated considering the limitations to its transboundary movement. When waste disposal is conducted by third parties, contractors will be used that are reputable and legitimate enterprises licensed by the relevant regulatory agencies.
 - *Performance Standard 4 – Community Health, Safety and Security*. Commercially reasonable efforts shall be exercised to control the safety of the transportation and disposal of waste.

Technical Standard – Resource Use and Waste Management

- h) Operations shall ensure that waste management contractors (including transport and disposal contracts) are assessed and evaluated as part of the procurement process prior to approval and meet the requirements of the *Supplier and Contractor Management Technical Standard*.
- i) Vedanta procurement and supply contracts shall include requirements for the provider to follow the waste hierarchy and that, in order of priority, waste is avoided, reduced, reused, recycled and properly treated or disposed.

4.2. Resource Use

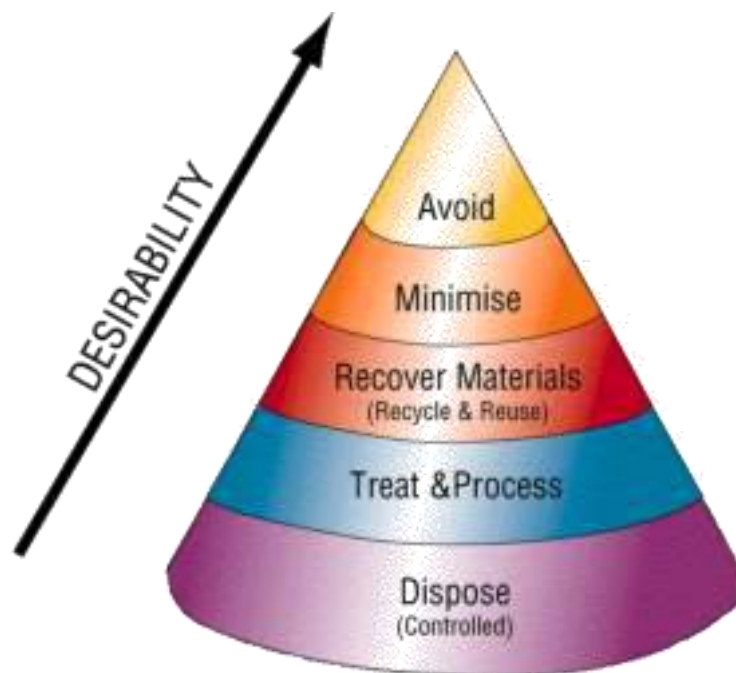
- a) Vedanta shall design its operations and select equipment to minimise resource use across the lifecycle of each site and/or development.
- b) Operations shall implement technically and financially feasible measures and cost effective options to improve efficiency in the consumption of energy, water and other resources with a focus on areas that are considered core business activities.
- c) As stated by IFC Performance Standard 3 (Resource Efficiency and Pollution Prevention), operations will adopt principles of cleaner production in product design and production processes with the objective of conserving raw materials, energy and water.
- d) Resource-related risks shall be identified as part of the Environmental and Social Impact Assessment (ESIA) process and addressed in the Sustainability Management System.
- e) Operations shall ensure that resource-related decisions take into account local circumstances such as environmental sensitivities and thresholds and are aligned with ESIA requirements and/or sustainability risk assessments.
- f) The requirements for process and potable water over the lifetime of each operation or project shall be determined and any existing water stress in terms of the existing environment and current users shall be evaluated (and in the case of projects, prior to proposed activities). Water use requirements shall also meet the commitments outlined in the *Vedanta Group Water Management Policy* and the requirements of the *Water Management Technical Standard*.
- g) Operations shall ensure that there is a sustainable and secure supply of water. Where water is provided by a public or private supplier, the original water body will be identified and the sustainability of water supply will be evaluated taking account of potential future changes in water availability due to climate change and other demands on the specific source(s) of the supply.
- h) In areas where the supply of water may be adversely affected by withdrawals, the potential impact of the proposed water use on other users (human and animal) and vegetation will be evaluated and action taken according to the finding.
- i) Operations shall:
 - Maximise the internal re-use of water in order to minimise the requirements for the supply of fresh water;
 - Investigate the opportunities for rainwater collection and the potential for using effluent from another process as the source of water; and

Technical Standard – Resource Use and Waste Management

- Minimise freshwater use, especially in areas prone to seasonal, sporadic or all-year-round water stress and/or water shortages.
- j) Operations shall seek to reduce energy use wherever reasonably practicable and in line with the *Vedanta Energy and Carbon Management Policy* and the requirements of the *Energy and Carbon Technical Standard*.
- k) Targets shall be developed to drive improvements in Vedanta's efficiency in using resources. An action plan to meet these targets shall be implemented and progress towards achieving them will be monitored and reported to Vedanta Group.

4.3. Adopting the Waste Hierarchy

- a) Operations shall demonstrate a commitment to applying the waste management hierarchy principles. Priority shall be given to avoidance and minimisation of Waste generation followed by recovery, reuse and recycling. The least preferred option shall be disposal (landfill or incineration).



These principles shall be considered in the context of the life cycle of the material selection, design phase, project or facility, and with consideration of environmental regulations and availability of resources locally to handle waste.

- b) Operations shall design and operate processes to minimise the amount of waste that is generated, as well as by ensuring the implementation of good practices. The hazards associated with wastes which are generated shall also be reduced through substitution of

Technical Standard – Resource Use and Waste Management

raw materials with less hazardous materials and by stringent segregation of hazardous and non-hazardous wastes.

- c) The amount of waste that is recycled shall be maximised by:
- Establishing contact with local recycling companies to establish the full range of materials that can be recycled and in what form the materials need to be presented; and
 - Segregation and proper storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of the materials
- d) Operations shall work with its partners, suppliers and other stakeholders to identify ways to use unavoidable wastes as inputs to other processes wherever possible.

4.4. Waste Management Planning

- a) A Waste Management Plan (WMP) and procedures shall be developed by Operations management as part of the Sustainability Management System to manage waste and optimise the use of materials.
- b) The WMP for each operation shall specify how operation wastes are to be managed (in accordance with this Standard) and shall cover the following aspects:
- Legal Context – detailing specific local laws and regulations relating to waste management as well as any international legal/regulatory obligations
 - Roles and Responsibilities – of the different site managers and staff in relation to managing waste at the site
 - Waste Arisings – the sources, types, and quantities of waste generated by the site
 - Waste Minimisation and Recycling – measures to be taken to reduce the amount of waste to be disposed
 - Storage and On-site Handling – a description of how waste is to be managed on site including containers and labelling
 - Waste Collection and Transfer – including waste tracking procedures to the final approved destination
 - Treatment and Disposal – for specific types of waste
 - Monitoring, Data Management and Reporting
- c) Targets shall be developed to drive improvements in mineral and non-mineral waste management. These shall include hazard and/or quantity reduction of wastes destined for disposal.

4.5. Waste Identification and Classification

- a) A waste inventory shall be established detailing the types and quantities of waste that are expected to be produced so that proper planning can be undertaken for the on-site handling and storage of all the different waste streams and so that appropriate arrangements can be made for on- or off-site treatment and disposal. The inventory shall be updated, based on monitoring of actual quantities of waste generated and revised predictions regarding future site activities, at least on an annual basis.

Technical Standard – Resource Use and Waste Management

- b) Different wastes shall be classified according to any local requirements and as 'hazardous'/'non-hazardous' in accordance with local legal/regulatory definitions or international standards (such as the Basel Convention).
- c) In the case of mineral wastes, the physical as well as chemical characteristics and any hazardous properties shall be documented.

4.6. On-site Handling and Storage of Waste

- a) The ultimate end point of the treatment and disposal of all wastes, including any residues from treatment, shall be identified and wastes shall be handled and stored in such a way so as to facilitate the planned treatment and disposal.
- b) Non-mineral wastes shall not be disposed of on-site or stored on a permanent basis.
- c) The arrangements for the collection and storage of waste at particular sites will vary depending on the ultimate fate of the different wastes. Non-mineral waste shall be stored in containers that are:
 - In good condition and appropriate volume, material and shape for the type of waste being contained; and
 - clearly labelled to show the contents and any associated hazards.
- d) Wastes shall be segregated to prevent incompatible materials coming into contact with each other and to prevent contamination of potentially recyclable materials.
- e) All waste shall be stored securely in designated areas, with a suitable surface and a method to contain any leakage or contaminated runoff water. Secondary containment shall be provided for the storage of all liquid waste. This shall have a capacity of 110% of the largest storage container or 25% of the total storage capacity, whichever is greater.
- f) Hazardous wastes shall be stored separately from non-hazardous wastes. Underground storage tanks and underground piping shall not be used for hazardous liquid wastes for new projects and, for on-going operations, shall be avoided and alternative storage methods identified where practicable.
- g) Storage areas for hazardous waste shall:
 - display information about the specific materials being stored including material safety data sheets (MSDSs) and any specific hazards or precautions that need to be taken;
 - have appropriate warning signs in English (and the local language if not English) and including any international hazard symbols;
 - be secure to prevent unauthorised access;
 - be equipped with emergency wash facilities; and
 - have spill clean up kits available to deal with spillages or leakages of waste.
- h) Access to hazardous waste storage areas shall be restricted to authorised personnel that have received appropriate training.

Technical Standard – Resource Use and Waste Management

4.7. On-site Waste Treatment and Disposal

- a) Operations management shall develop and maintain a procedure for identifying the hazards, potential modes of failure and assessment of the risks posed by tailings dams, ash ponds and other mineral waste disposal facilities.
- b) For each mineral Waste disposal facility, operations shall maintain a record of the long-term physical and chemical behaviour and impacts on the environment. Where required, conceptual and/or numerical models may be used to ascertain the behaviour and impacts
- c) Vedanta shall ensure that the design and construction of all waste disposal facilities are:
 - compatible with the waste behaviour, addressing any threats to the environment, particularly those posed by contaminated run-off and seepage, wind and water erosion, direct exposure to chemical hazards, asbestiform minerals, and geotechnical instability;
 - engineered to best available or applicable technology for stability and safety; and
 - located within permitted boundaries in a manner that minimises impacts to sensitive receiving environments and water resources.
- d) Tailings disposal facilities shall not be used for storing water.
- e) Mineral waste disposal facilities shall be managed and operated to ensure they are safe with respect to:
 - the waste mass and its physical and chemical reactions;
 - the containment structure and its stability;
 - waste placement, segregation and handling requirements; and
 - the potential for spills and improperly placed materials.
- f) All Vedanta waste disposal and storage facilities and operations shall be supervised by appropriately qualified and trained personnel.
- g) The physical stability of waste disposal structures shall be monitored to provide an early warning for potential failure. Regular monitoring of the geochemical behaviour of the waste repositories shall also be undertaken for validation and review of the waste behaviour model and early warning of potential pollution problems.
- h) An independent and external review of all major waste storage facilities shall be undertaken by qualified engineering specialist(s) according to protocols and frequencies appropriate to their physical and chemical hazards and level of risks. The frequency of external reviews shall be at least annually for physical and chemical hazards. Any significant findings will be reported immediately to the operation's overall manager who will be responsible for ensuring that appropriate remedial action is instigated.
- i) An emergency management process, including detailed communication arrangements with local Stakeholders shall be developed and maintained for responding to potential incidents involving waste storage facilities and transport to disposal facilities. The emergency

Technical Standard – Resource Use and Waste Management

management process shall meet the requirements of the Vedanta Group *Emergency and Crisis Management* Technical Standard.

- j) The potential risks and benefits of off-site versus on-site treatment of non-mineral wastes shall be evaluated based on the distances to potential treatment and disposal facilities and the performance standards of those facilities. If appropriate, on-site pre-treatment technologies, such as thermal oxidation (incineration) shall be employed to reduce the quantity and/or hazardous nature of waste prior to disposal off-site.
- k) If the absence of viable alternatives necessitates the development of on-site or off-site Vedanta waste treatment and disposal facilities, these facilities shall be designed and operated to international standards of health, safety and environmental protection such as those required by the IFC (Performance Standards and EHS/Sector Guidelines) or European Union.

4.8. Waste Transfer and Off-Site Treatment/Disposal

- a) Operations shall seek to ensure that any third party used to transport, treat and/or dispose of waste is competent to undertake the task, in advance of any transport, treatment and/or disposal contract being arranged.
- b) Operations shall ensure that no waste is disposed of by burning or dumping in unapproved or unregulated locations.
- c) A waste tracking system shall be used to track waste from the point of leaving a Vedanta operation through to its final disposal point. If there is no national legislation specifying the details of the tracking system, operations shall use a system of Waste Transfer Notes (WTNs). A copy of the WTN, which describes the nature and quantity of waste, shall accompany each load of waste and will be signed by all parties involved in chain of custody for the transfer and disposal of the waste. A copy of each WTN signed at the final treatment or disposal facility shall be returned to the Vedanta operation as evidence of the waste's proper disposal.
- d) Periodic audits of the full waste management process, including the transportation, treatment and disposal of waste shall be undertaken to ensure that waste contractors are working in accordance with the agreed contract and performance expectations. The frequency of audits shall be based upon the risks associated with the types and quantities of wastes being transported and disposed of. As a minimum, waste contractor audits shall be conducted once every three years.
- e) Where there are inadequate local disposal facilities, Vedanta operations shall take a proactive approach to stimulate the development of responsible methods of waste treatment and disposal, for example by supporting the upgrade of existing facilities or by encouraging local third-party capacity building.
- f) If the lack of an acceptable waste treatment or disposal facility necessitates the export of a particular type of waste, this shall be undertaken in compliance with the Basel Convention and any applicable local law.

Technical Standard – Resource Use and Waste Management

4.9. Monitoring and Record Keeping

- a) Waste storage areas shall be inspected on a weekly basis.
- b) Completed WTN notes shall be kept for a period of two years, or longer if required by local legislation.
- c) Waste audit reports (including waste contractor audit reports) shall be available and maintained. Actions identified from waste audits shall be tracked and closed-out and meet the requirements of the *Corrective and Preventive Action Management Standard*.
- d) Records shall be maintained of all wastes sent off-site from each Vedanta operation, including details of the disposal/treatment facility. A documented inventory shall also be kept, including location, of on-site waste landfills and storage areas. Historical and abandoned landfills will be included in this inventory and their location documented.
- e) The Waste Management Plan and waste inventory are maintained and are available.
- f) Resource use, such as water and energy consumption, as well as the amounts of hazardous and non-hazardous waste generated and disposed shall be recorded to monitor progress in achieving performance targets.

4.10. Change Management

- a) Vedanta shall ensure that a change management process is in place in relation to waste management arrangements, which meets the requirements of the *Management of Change Management Standard*. This shall include processes to deal with changes relating to the following:
 - Vedanta operations or activities, including materials used, which give rise to significantly increased use of resources, different types of waste or significantly different quantities of waste;
 - Approval of any significant modification to mineral waste disposal facilities or waste handling and disposal procedures;
 - Point of contact or other key personnel involved in management of waste disposal activities; and
 - Local or international waste management regulations that could impact the way in which wastes are managed.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

Technical Standard – Resource Use and Waste Management

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure it complies with the requirements of this standard. Performance against the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- The operation has set resource use efficiency targets and has a plan in place to meet these targets.
- The operation has a Waste Management Plan in place that clearly specifies responsibilities and general procedures for the management of wastes generated on site.
- If relevant, the operation has records of the external review of major waste storage facilities to assess their physical and chemical hazards. There should be a record of any remedial actions undertaken in the light of the findings from the reviews.
- Waste storage areas are inspected on a weekly basis (and appropriate action taken in a timely manner).
- A waste tracking system, such as a Waste Transfer Note system is being used to check transfer and disposal of wastes.
- All waste management contractors (collection and treatment/disposal) have been checked prior to contracts being arranged and periodically thereafter to check their health, safety and environmental performance.
- The following parameters are being monitored and recorded:
 - Resource use - including water and energy consumption
 - Waste generation rates – for different types of waste
 - Quantities of waste recycled, treated and disposed (on and off-site)

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
International Finance Corporation Performance	The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being

Technical Standard – Resource Use and Waste Management

Reference	Description
Standards Guidance Notes	<p>updated and draft versions (V2) are available however these have not yet been finalised and formally published.</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards</p>

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
POL 05	Supplier and Contractor Management
POL 07	Water Management
POL 10	Energy and Carbon Management
MS 06	Competency, Training and Awareness
MS 07	Management of Change
TS 13	Emergency and Crisis Management
TS 14	Water Management
TS 16	Energy and Carbon Management

Technical Standard – Safety Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Safety Management

Technical Standard – Safety Management

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Technical Standard – Safety Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Safety Management System	7
4.3 Equipment Safety	8
4.4 Electrical Safety	9
4.5 Working at Heights	9
4.6 Special Hazard Environments	9
4.7 Driving and Vehicle Safety	10
4.8 Emergency Preparedness and Response	10
4.9 Fire and Explosion	11
4.10 Safety in Building Design	12
4.11 General Workplace Safety Provisions	13
4.12 Personal Protective Equipment (PPE)	13
4.13 Communication and Training	13
4.14 Monitoring and Review	14
5. ROLES AND RESPONSIBILITIES	15
6. COMPLIANCE AND PERFORMANCE	15
7. SUPPORTING INFORMATION	15
8. REVIEW	16
9. RELATED DOCUMENTATION	16

Technical Standard – Safety Management

1. INTRODUCTION

The purpose of this Technical Standard is to ensure that Vedanta effectively manages the safety of employees and third parties (e.g. Contractor Employees and Affected Communities) and builds a positive safety culture through effective management systems. This Standard supports Vedanta's *HSE Policy*.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Affected Community	Local communities directly affected by the new or existing project/operation.
ALARP (As Low as Reasonably Practicable)	Consideration of the risk against the benefits or non-benefits that are needed to implement measures/controls to avoid the risk – where the cost (not just financial) of implementation of the measures is disproportionate to the benefits, it is not consider to be reasonably practicable.
Competent Person	An individual who has the necessary knowledge, skills and experience to complete their responsibilities safely, effectively and consistently.
Continual Improvement	A recurring process of enhancing safety governance systems in order to achieve improvements in overall performance consistent with Vedanta Mission, Values and Code of Conduct.
Contractor	Any third party organisation which is engaged or commissioned by Vedanta to undertake work or provide services.
Contractor Employee	An employee of a contracted company engaged or commissioned by Vedanta to undertake work or provide services, but who are not directly employed by Vedanta. For example, contractor employees working on Vedanta operations, persons working for Vedanta through staff/employment agencies, contract cleaners etc.
Confined Space	Is a wholly or partially enclosed space not designed or intended for human occupancy and in which a hazardous atmosphere could develop as a result of the contents, location or construction of the confined space or due to work done in or around the confined space.

Technical Standard – Safety Management

Term	Definition
Employee	An individual who is engaged to work directly for Vedanta on either a part-time (including hourly paid) or full-time basis and for a fixed period or on permanent basis and is salaried. By virtue of the individual's contract of employment, the employee is obliged to adhere to Vedanta's terms and conditions of employment (specific to Group or the subsidiary employing the individual), and is protected by national (where it exists) and international laws concerning labour and working conditions.
Emergency Preparedness and Response	A procedure that allows for quick and efficient response to accidents that may result in injury or environmental damage.
Hazardous Materials	Materials that represent a Hazard due to their physical or chemical characteristics.
Hazard	A situation which has the potential to cause harm to people, equipment or the environment.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies, as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices, and research and development facilities.
Risk	Combination of probability or frequency of certain hazardous occurrences and severity of impacts resulting from an occurrence.
Lone and Isolated Working	Someone working out of verbal and line of sight communication with a supervisor, other workers, or other persons capable of providing aid and assistance, for continuous periods exceeding one hour.
Standard Operating Procedures	This is a clearly laid down instruction for operation of, for example, a process plant, which takes into consideration general SHE requirements. The procedure represents good or best practice that should be inherited to at all times.
Risk Assessment	The identification, evaluation, and estimation of the levels of risks involved in a situation, their comparison against benchmarks or standards, and determination of an acceptable level of risk.

Technical Standard – Safety Management

Term	Definition
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and interested third parties.
Stakeholder Engagement	An umbrella term encompassing a range of activities and interactions between Vedanta and its stakeholders over the life of a project that are designated to promote transparent, accountable, positive, and mutually-beneficial working relationships. Stakeholder engagement includes stakeholder identification and analysis, information disclosure, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.
UNEP	United Nations Environment Programme, coordinates the United Nations environmental activities, assisting developing countries in implementing environmentally sound policies and practices.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)

4. PROGRAMME REQUIREMENTS

This Technical Standard aims to outline the requirements in order to avoid or (if this not possible), minimise the adverse impact of Vedanta operations on the safety of its Employees, Contractor Employees and third parties. The requirements described below shall be followed by all Vedanta subsidiary companies and operations with regards to safety management.

4.1. General Requirements

- a) Safety management programmes shall meet the requirements of the *IFC Performance Standards, the IFC EHS General Guidelines and the IFC Sector Guidelines*. These requirements are summarised as follows:
 - *Performance Standard 2 – Labour and Working Conditions*. This includes the requirement for the protection for basic rights of workers, treating the workforce fairly and providing them with safe and healthy working conditions.
 - *Performance Standard 4 – Community Health, Safety, and Security*. This includes the recognition that project activities, equipment and infrastructure often bring benefits to communities, including employment, services and opportunities for economic development, however, increased community exposure to risks and impacts arising from the project activities may occur. Hence the requirement to avoid or minimize risks and the impacts on the health and safety of Affected Communities, and the safeguarding of personnel and property.

Technical Standard – Safety Management

- *IFC EHS Guidelines.* The EHS Guidelines contain the performance levels and measures that are normally acceptable and applicable to projects or operations. Vedanta operations are expected to refer to these Guidelines (or other internationally recognised sources, as appropriate) when identifying hazards and risks associated with new projects or general operations. Applying the EHS Guidelines for existing operational activities may involve the establishment of operation-specific targets and a timetable for achieving the Guideline requirements. The applicability of the EHS Guidelines will be tailored to the nature and scale of the hazards and risks presented by the Vedanta operation.
- *IFC Sector Guidelines.* These Guidelines provide the performance levels and measures that are normally acceptable and applicable to projects or operations in specific industry sectors. Industry sector guidelines that may apply to Vedanta Operations include mining, base metal smelting and refining, wind power and thermal energy.

4.2. Safety Management System

- a) Operations management shall assess the work place and the potential hazards associated with the safety aspects. Operations management shall ensure the safety management system minimises, as low as is reasonably practicable (ALARP), the hazards and risks to employees and third parties (including Affected Communities) as outlined in this Standard and the suite of Vedanta Management Standards. The management system shall include the following methodology:
 - i) 'Plan' – establish objectives and processes required; specifically to identify and manage the risks of injury from Hazards
 - ii) 'Do' – implement the processes that are designed minimise exposure to the hazards and risks identified in order to prevent personal injury
 - iii) 'Check' – measure and monitor the processes and report results against the objectives
 - iv) 'Act' – take action to improve performance of the management system based on results; and
 - v) Adopt a continual improvement process.
- b) Operations management shall aim to reduce the number of accidents to a rate of zero.
- c) Operations management shall ensure there is a system in place for reporting, investigating and communicating lessons learnt from accidents/incidents.
- d) Operations management shall ensure facility-specific occupational health and safety hazards are identified based on job safety analysis or comprehensive hazard or risk assessment using established methodologies such as a hazard identification study [HAZID], hazard and operability study [HAZOP], or a quantitative risk assessment [QRA].
- e) Operations management shall ensure as a general approach, health and safety management planning should include the adoption of a systematic and structured approach for prevention and control of physical, chemical, biological, and radiological health and safety hazards.

Technical Standard – Safety Management

- f) Operations management shall implement all reasonable precautions to protect the safety of Employees, Contract Employees and third parties affected by the work activities and introduce preventative and protective measures (with a preference of the avoidance of risks and impacts over minimisation) according to the following order of priority:
 - i) Hazard elimination by removing the activity from the work process;
 - ii) Hazard control at the source through the use of engineering control mechanism;
 - iii) Hazard minimization through the design of safe systems of work, and administered control measures; and
 - iv) Provision of appropriate Personal Protective Equipment (PPE) in conjunction with training, use and continual maintenance. The provision and use of the personal protective equipment shall be managed and monitored by operational management.
- g) Operations management shall ensure the risks and impacts to the health and safety of Affected Communities prior to and during the lifecycle of the project/operation and addressing the identified risks and impacts in a manner proportionate with their nature and size.
- h) Operations management shall avoid and minimise the potential for community exposure to hazardous situations that may result from on-site project/operation activities.
- i) Operations management shall ensure as part of the risk management process, risk assessments are performed by recognised and qualified specialists, with a thorough risk assessment taking into consideration political, economic, legal, military and social developments, any patterns and causes of violence and potential for future conflicts that may arise, depending on the region.
- j) Operations management shall implement a process for identifying and reducing hazards associated with work activities carried out on a day to day basis.
- k) Operations management shall seek to obtain, and maintain, external certification of the safety management system to the internationally-recognised Health and Safety management system standard OHSAS 18001 through a third party. The management system will form part of Vedanta's risk management strategy to address changing legislation and protect the workforce.
- l) Operations management shall ensure all occupational health and safety practices and procedures comply with the *Vedanta Health, Safety and Environment Policy*.

4.3 Equipment Safety

- a) Operations management shall identify, assess and minimise the hazards and risks relating to rotating and moving equipment through the application of controls following the order of priority set out in section 4.3d.
- b) Operations management shall ensure all protective measures (e.g. guards), where fitted are designed and installed in conformance with appropriate machine safety standards.

Technical Standard – Safety Management

4.4 Electrical Safety

- a) Operations management shall identify, assess and minimise the hazards and risks posed by fixed electrical wiring and by portable devices (eliminating faulty or exposed electrical hazards).
- b) Operations management shall ensure service rooms housing high voltage equipment ('electrical hazard') are appropriately labelled and entry is controlled or prohibited.
- c) Operations management shall ensure all electrical equipment is designed such that it is able to be isolated "Locked Out" for maintenance to be performed.

4.5 Working at Heights

- a) Operations management shall have in place a safe system of work that identifies, assesses and minimises the hazards and risks in relation to working at height.
- b) Operations management shall ensure fall prevention measures (e.g. fixed guardrails) are implemented, so far as reasonably practicable, and in preference to fall arrest (e.g. harnesses) or fall mitigation (e.g. inflatable cushions) arrangements.
- c) Operations management shall make sure that Employees and Contractor Employees are made aware of the danger of working at heights.

4.6 Special Hazard Environments

- a) Operations management shall ensure a permit to work system is required for potentially hazardous activities and ensure measures are put in place to eliminate, as low as is reasonably practicable, the existence and adverse character of such activities, examples of which are listed but not limited to those below:
 - i) confined space work activity;
 - ii) working with high voltage electricity;
 - iii) working with pressure vessels, tanks, piping systems;
 - iv) working at heights (e.g. roof areas);
 - v) excavation
 - vi) hot work activities e.g. welding, cut and heating; and
 - vii) working over or by water.

Measures shall be implemented for the elimination or prevention of accidents and damage to people or property where foreseeable hazardous work is envisaged.

- b) Operations management shall ensure, prior to work or entry into a confined space, or in any of the areas listed above in 4.6 a), adequate and appropriate training has been received by all workers involved and potential rescue operation developed.
- c) Operations management shall have in place a system of work that identifies, assesses and minimises the hazards and risks in relation to lone working.
- d) Operations management shall ensure the system of work of lone and isolated workers includes standard operating procedures (SOPs) designed to ensure all the necessary PPE and safety measures, including rescue are in place before and during lone working.

Technical Standard – Safety Management

4.7 Driving and Vehicle Safety

- a) Operations management shall identify, assess and minimise the hazards and risks associated with travel, e.g. to and from the workplace; during the operation of project equipment/machinery or public or private roads.
- b) Operations management shall ensure traffic safety is promoted by all personnel during travel to and from the workplace and during the operation of equipment on private and public roads. This should include for example commencing the journey only when occupants are fully seated and have a seat belt fastened.
- c) Operations management shall ensure arrangements are established and maintained, as far as reasonably practicable, to segregate pedestrians from vehicles within or outside the buildings to ensure easy, safe and appropriate access.
- d) Operations management shall ensure vehicle driving and traffic safety practices promote the need for drivers to undergo periodic medical surveillance, the improvement of rear and frontal driving visibility using headlights, driving rights-of-way, the direction of traffic, site speed limits, circulation of delivery and private vehicles to defined routes and areas.
- e) Operations management shall ensure a road safety initiative appropriate to the scope and nature of Vedanta activities is developed and includes the adoption of best transport practices, regular maintenance of vehicles, minimization of pedestrian interaction with construction vehicles, coordination with emergency services and using locally sourced materials to minimize travelling distances.
- f) Operations management shall ensure all industrial vehicle drivers are adequately trained and experienced.

4.8 Emergency Preparedness and Response

- a) Operations management shall ensure there are documented measures in place to control an unplanned event resulting from activities undertaken by the organisation, or events out of the control of the organisation (e.g. flood, pandemic), which could impact on an individual's safety, and /or health within the facility or in the local community, lead to loss of life or damage to property, or lead to damage to the environment (See Vedanta *Emergency and Crisis Management Technical Standard* and the UNEP publication '*Good Practice in Emergency Preparedness and Response 2005*').
- b) Operations management shall ensure emergency preparedness and response plans are in place and tailored to the risks faced by the organization. The plans shall include an integrated approach to address emergency needs and protect the health and safety of workers, the public and the environment - inside and outside the physical project or operation boundary.
- c) Operations management shall document their emergency preparedness and response plans, resources and responsibilities and ensure relevant information is communicated to Employees, Affected Communities, relevant government organizations and other relevant parties (e.g. contractors, visitors etc).

Technical Standard – Safety Management

- d) Operations management shall ensure that, as far as is reasonably practicable, all possible communication aids are utilized in notifying workers in the event of an emergency and practice exercises and other training programs are undertaken and provided to test that an adequate level of emergency preparedness is implemented.
- e) Operations management shall ensure emergency response plans are reviewed and updated accordingly to reflect changes in equipment, processes, employees and facilities.
- f) Operations management shall ensure Standard Operating Procedures (SOPs) are developed for project or process shut-down, and an evacuation plan and drills are executed annually or more frequently as deemed necessary.
- g) Operations management shall ensure there is a system for notifying the local community should an emergency arise as a result of activities at the Operation..
- g) Operations management shall ensure a process is in place for interacting with the media and communicating information emergency information to the relevant media sector.
- h) Operations management shall ensure a mechanism providing or dealing with organisations that provide the following services are identified, implemented and kept current:
 - i) Fire Services – consider level of fire service capacity; response time; limitations
 - ii) Medical Services – fully trained first aiders, prior to transportation to the hospital;
 - iii) Availability of Resources (internally or externally) – personnel with specialist knowledge and experience;
 - iv) Mutual Aid – a clear and concise agreement on how to respond in the even of an emergency; and
 - v) Contact List – details of internal and external resources and personnel.

4.9 Fire and Explosion

- a) Operations management shall ensure control and prevention strategies are implemented to minimise or eliminate the hazards and risks of fire and/or explosions as a result of activities undertaken.
- b) Operations management shall ensure that, during the use of explosives, blasting activities are well managed, coordinated and effective communication procedures are in place.
- c) Operations management shall ensure the blasting site is secured and access and egress to the site is adequately controlled.
- d) Operations management shall identify, assess and minimise the hazards and risks resulting from welding and/or hot work activities.
- e) Operations management shall ensure fire precautions and standard operating procedures are implemented were activities such as hot cutting are undertaken.

Technical Standard – Safety Management

- f) Operations management shall ensure facilities that face fire risk have evacuation plans that are understood and have been rehearsed periodically (at least annually) by all workers to mitigate the consequences to people and the environment.

4.10 Safety in Building Design

- a) Operations management shall design, construct, operate and decommission the structural elements or components of a project in a way which minimises the hazards and risks to employees and third parties.
- b) Operations management shall ensure the general public while accessing the facilities are not exposed to hazards or put at risks.
- c) Operations management shall ensure opportunities have been identified during the design stage of the building/structure to eliminate or reduce to as far as is reasonably practicable the consequences of an accident.
- d) Operations management shall ensure all new buildings and facilities are designed, constructed and managed in full compliance with local regulations and internationally recognized and accepted life and fire safety standards.
- e) Operations management shall ensure life and fire safety systems are implemented, and where necessary a master plan identifying major fire risks is prepared. The plan should adequately address the following issues:
 - i) Fire prevention identifying ignition sources and fire risks;
 - ii) Means of escape adequately designed to facilitate safe evacuation;
 - iii) Fire detection systems and alarm;
 - iv) Prevention of the spread of fire through compartmentation;
 - v) Fire suppression and control;
 - vi) Emergency response; and
 - vii) Operation, maintenance, and testing of mechanical, electrical, life and fire safety systems.
- g) Operations management shall ensure work areas are designed in a way so as to prevent the start or spread of fire e.g. fire fighting or suppression systems.
- h) Operations management shall ensure a full assessment of an existing buildings life and fire safety system is undertaken by a qualified professional before occupation.
- i) Operations management shall identify, assess and minimise the hazards and risks from forces of nature e.g. floods, lightning strike, fires from surrounding areas, etc.

Technical Standard – Safety Management

4.11 General Workplace Safety Provisions

- a) Operations management shall ensure there is adequate work space for safe execution of all activities and clear passage to emergency exits.
- b) Operations management shall ensure all recurrent and permanent places of work are designed and equipped to protect occupational safety and health.
- c) Operations management shall ensure buildings are structurally safe, and provide appropriate protection against the climate, and have acceptable light, temperature and noise conditions.
- d) Operations management shall ensure all workplace structures are designed and constructed to withstand the expected elements, and have an area designated for safe refuge, if appropriate.
- e) Operations management shall ensure contingency measures are in place to address business continuity in an event of an emergency which may result in the loss of property, data/critical information, supplies of water, electricity, etc.
- f) Operations management shall ensure the provision of easy, safe and appropriate access for pedestrians and vehicles within and outside the building. This also applies to installations requiring servicing, inspections; prevention of unauthorized access to dangerous areas, etc.

4.12 Personal Protective Equipment (PPE)

- a) Operations management shall ensure Personal Protective Equipment (PPE) is actively used where alternative methods such as engineering controls, procedures and work plans cannot eliminate or sufficiently reduce the hazard. Operational management shall ensure PPE is issued and used by the relevant parties.
- b) Operations management shall ensure that PPE users are trained in the use of PPE and that suitable arrangements are in place for the storage and maintenance of PPE.
- c) Operations management shall identify, assess and minimise the hazards and risks to the eye that a variety of industrial processes including chemical sprays/splashes may cause.

4.13 Communication and Training

- a) Operations management shall ensure employees are committed to achieving a good safety performance through employee involvement, good communications, supportive leadership and, if necessary, the use of discipline to ensure compliance with standards.
- b) Operations management shall ensure provisions are in place to deliver adequate occupational health and safety training to all employees, and ensure all employees receive basic health and safety and adequate training relevant to their work activity.
- c) Operations management shall ensure all sites of activities have a fully functioning visitor's control system in place and all visitors and employees receive orientation training.

Technical Standard – Safety Management

- d) Operations management shall ensure all workers and contractors receive adequate training and information prior to commencement of work activities. This would allow them to understand the risks and hazards associated with the work activity.
- e) Operations management shall ensure training programmes are in place for employees (e.g. for the delivery of specialist occupational health and safety related courses). This will be implemented based on roles, responsibilities and capabilities of the individuals.
- f) Operations management shall ensure all hazardous areas are appropriately marked, the signage should be easily understood, and in accordance with international safety standards (e.g. IFC EHS Guidelines, OHSAS), and comply with local regulations, language and customs.
- g) Operations management shall ensure any of its vessels containing hazardous substances are labelled as to its contents and hazard, and include the appropriate colour coding and MSDS are available.
- h) Operations management shall ensure any hazard coding systems are easily accessible and understood, and made available to all including emergency services personnel.

4.14 Monitoring and Review

- a) Operations management shall ensure monitoring programmes are implemented to verify the effectiveness of prevention and control strategies.
- b) Operations management shall have procedures for periodic inspections of the workplace to ensure that the appropriate safety standards are maintained. In addition to workplace inspections, operations management shall ensure workplace audits are undertaken that focus on the behavioural aspects of employees at work to identify both safe and unsafe work acts.
- c) Operations management shall ensure monitoring and analysis are conducted in accordance with internationally recognised methods and standards (e.g. as set out in the IFC EHS General Guidelines and Performance Standards Guidance).
- d) Operations management shall periodically review their safety management system and incident performance. Reviewing performance shall be based on information from measuring activities (including both proactive and reactive monitoring) and from auditing activities in which independent assessments are made of the safety management system. In the event of a potentially serious incident a review should be undertaken in the relevant area.

4.15 Accident Investigation

- a) Operations management shall ensure all accidents resulting in the death or injury requiring first aid, medical treatment, restricted work or lost time, comply with the Vedanta *Incident Reporting and Investigation* Management Standard and guidelines.

Technical Standard – Safety Management

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure it complies with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically documented and, where necessary, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- a) A documented and current risk assessment is available.
- b) All safety-related operational permits and safe systems of work are in place and permit requirements are complied with;
- c) Occupational health and safety evaluation against internationally published exposure guidelines;
- d) Fatality and accident rates benchmarked against the performance of facilities in the particular industry sector in countries through consultation with published sources e.g. the UK Health and Safety Executive (HSE) or USA OSHA;
- e) Monitoring programme designed and implemented by safety professionals. This could be monitoring hazards on specific projects; and
- f) The Safety Management System has been, and continues to be, certified to the OHSAS 18001 internationally-recognised health and safety management system standard.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
International Finance Corporation Performance Standards Guidance Notes	The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions are available however these have not yet been finalised and formally published. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceSt

Technical Standard – Safety Management

Reference	Description
	Standards
OHSAS 18001	Guidelines for occupational health and safety management systems. http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030148086#
UNEP	Good Practice in Emergency Preparedness and Response 2005 http://www.unep.fr/shared/publications/pdf/WEBx0118xPA-GoodPracticeEN.pdf

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 06	HSE Policy
MS 02	Stakeholder Materiality and Risk Management
MS 06	Competency, Training and Awareness
TS 12	Occupational Health Management
TS 13	Emergency and Crisis Management

Technical Standard – Environmental Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Environmental Management

Technical Standard – Environmental Management

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Technical Standard – Environmental Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Management Systems	7
4.3. Permit and International Requirements	8
4.4. Pollution Prevention	8
4.5. Resource Efficiency	8
4.6. Air Quality	9
4.7. Energy	9
4.8. Water Quality and Wastewater	9
4.9. Hazardous Materials	10
4.10. Waste	11
4.11. Environmental Noise	11
4.12. Visual Impact	11
4.13. Land Use and Biodiversity	11
4.14. Contaminated Land (including water)	12
5. ROLES AND RESPONSIBILITIES	12
6. COMPLIANCE AND PERFORMANCE	12
7. SUPPORTING INFORMATION	13
8. REVIEW	14
9. RELATED DOCUMENTATION	14

Technical Standard – Environmental Management

1. INTRODUCTION

The purpose of this Technical Standard is to ensure that we manage our impacts to the environment through effective management systems and processes and that work towards improving our environmental performance. This Standard supports Vedanta's *EHS Policy*.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Ambient Conditions	The surrounding and background environmental conditions (e.g. air quality, water quality, temperature etc.) which already exist.
Cleaner Production	A continuous application of an integrated, preventative sustainability strategy to production processes to minimise wastes and resource use.
Competent Person	An individual who has the necessary and sufficient knowledge, skills and experience, as well as the necessary experience to complete their responsibilities safely, effectively and consistently.
Contractor	Any third party organisation which is engaged or commissioned by Vedanta to undertake work or provide services.
Contaminated Land	Land that contains hazardous materials or pollutants above background or naturally occurring levels.
Contractor Employee	An employee of a contracted company engaged or commissioned by Vedanta to undertake work or provide services, but who are not directly employed by Vedanta. For example, contractor employees working on Vedanta operations, persons working for Vedanta through staff/employment agencies, contract cleaners etc.
Environmental Management System (EMS)	The structured framework that provides the arrangements for managing the environmental aspects through the lifetime of the project/operation.
Ecosystem Services	Ecosystem services are the benefits that people, including businesses, derive from ecosystems. Ecosystem services are organized into four types of services: (i) provisioning services, which are the products people obtain from ecosystems; (ii) regulating services, which are the benefits people obtain from the regulation of ecosystem processes; (iii) cultural services, which are the nonmaterial benefits people obtain from ecosystems; and (iv) supporting services, which are the natural processes that maintain the other services. (<i>IFC definition</i>)

Technical Standard – Environmental Management

Term	Definition
Environmental and Social Impact Assessment (ESIA)	A formalised process designed to identify, assess and document environmental and social impacts associated with a project, along with the mitigation measures and management arrangements for ensuring such measures are implemented.
Fugitive Source	Fugitive source air emissions refer to emissions that are distributed spatially over a wide area and not confined to a specific discharge point. <i>(IFC definition)</i>
Hazardous Materials	Materials that represent a risk to health, safety or the environment due to their physical or chemical characteristics.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies, as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Mobile Source	A source that can be moved or is moving e.g. vehicles or equipment.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices, and research and development facilities.
Point Source	Discrete, stationary, identifiable sources of emissions that release pollutants to the atmosphere. They are typically located in manufacturing or production plants. Within a given point source, there may be several individual 'emission points' that comprise the point source. <i>(IFC definition)</i>
Point of Reception (or Receptor)	Any point on the premises occupied by persons where extraneous noise and/or vibration are received <i>(IFC definition)</i> .
Principles of cleaner production	The continuous application of an integrated preventive environmental strategy applied to processes, products, and services to increase eco-efficiency and reduce risks to humans and the environment (UNEP definition).
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and international third parties.
Stakeholder Engagement	An umbrella term encompassing a range of activities and interactions between Vedanta and its stakeholders over the life of a project that are designated to promote transparent, accountable,

Technical Standard – Environmental Management

Term	Definition
	<p>positive, and mutually-beneficial working relationships.</p> <p>Stakeholder engagement includes stakeholder identification and analysis, information disclosure, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.</p>
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Waste	Any substance (solid, liquid, or contained gaseous material) or object that is being discarded – e.g. by disposal, recycling or incineration.

4. PROGRAMME REQUIREMENTS

This Standard aims to outline the requirements in order to avoid (or if not possible, minimise) adverse impacts on the environment and human health from Vedanta operations. The requirements described below shall be followed by all Vedanta subsidiary companies and operations with regards to environmental management.

4.1. General Requirements

- a) Environmental management programmes shall meet the requirements of the *IFC Performance Standards and IFC EHS and Mining Sector Guidelines*. These requirements are summarised as follows:
- *Performance Standard 1 – Assessment and Management of Social and Environmental Risks and Impacts*. This includes having an effective environmental impact assessment and environmental management system in place which is dynamic and is a continuous process and which is appropriate to the nature and scale of the operation/project. The management system should draw on the business management process of the ‘plan, do, check and act’ philosophy to provide a methodological approach to managing environmental risks and impacts and to promote improved environmental performance. Reference should also be made to the *Vedanta Conducting ESIA’s to International Standards Technical Standard*.
 - *Performance Standard 3 – Resource Efficiency and Pollution Prevention*. This includes maintaining an operation/project-level approach to resource efficiency and pollution prevention in line with internationally available technologies and practices and to adopt such practices as far as their use is feasible. The ambient conditions and the application of technically and financially feasible resource efficiency and pollution prevention principles and techniques to avoid (or if not possible, minimise) adverse impacts on the environment, need to be considered.

Technical Standard – Environmental Management

- *Performance Standard 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources*. This includes requirements to protect and conserve and mitigate impacts on biodiversity, maintaining the benefits that arise from ecosystem services, and promoting the sustainable management of living natural resources. Reference should also be made to the Vedanta *Biodiversity Management Technical Standard*.
 - *IFC EHS Guidelines*. The EHS Guidelines contain the performance levels and measures that are normally acceptable and applicable to projects or operations. Vedanta operations are expected to refer to these Guidelines (or other internationally recognised sources, as appropriate) when evaluating and selecting resource efficiency and pollution prevention and control techniques for new projects. Applying the EHS Guidelines for existing operational activities may involve the establishment of operation-specific targets and a timetable for achieving the Guideline requirements. The applicability of the EHS Guidelines should be tailored to the nature and scale of the hazards and risks and be based on the results of an environmental assessment – the environmental assessment for projects shall meet the requirements of the *Conducting ESIA's to International Standards Technical Standard* and existing operations should also make reference to the *Stakeholder Materiality and Risk Management Management Standard*.
 - *IFC Sector Guidelines*. These Guidelines provide the performance levels and measures that are normally acceptable and applicable to projects or operations in specific industry sectors. Industry sector guidelines that may apply to Vedanta operations include mining; base metal smelting and refining; thermal power and wind energy.
- b) Operations shall conduct and keep current an Environmental and Social Risk of Impact Assessment. All new projects shall conduct an Environmental and Social Impact Assessment (ESIA) that meets international requirements and the requirements of the Vedanta *Conducting ESIA's to International Standards Technical Standard*.

4.2. Management Systems

- a) Operations shall ensure the environmental management system (EMS) includes consideration of the protection, as far as possible, of the environment as outlined in this Standard and the suite of Vedanta Management Standards. The EMS shall include the following methodology:
- 'Plan' – establish objectives and processes required; specifically to identify and manage the impacts of Vedanta Operations or Projects to the environment;
 - 'Do' – implement the processes that are designed to minimise impacts to the environment and biodiversity;
 - 'Check' – measure and monitor the processes and report results against the objectives;
 - 'Act' – take action to improve performance of EMS based on results; and
 - Adopts a continual improvement process.

Technical Standard – Environmental Management

- b) Operations shall seek to obtain, and maintain, external certification of the EMS to the ISO14001 internationally-recognised environmental management system standard through a third party.

4.3. Permit and International Requirements

- a) Operations shall ensure that, prior to commencement of construction, operation or decommissioning (as appropriate), all legally required permits are obtained and are maintained as current.
- b) Operations shall ensure the management of environmental pollutants and subsequent emissions to air, water and land is in accordance with operational permit requirements and meet local, regional and transboundary regulatory requirements and/or in their absence, other international requirements as applicable (e.g. *IFC Performance Standard, IFC EHS Guideline* and *IFC sector-specific Guideline* requirements). Operations shall ensure the permits are in place and are compliant with the requirements of the *Compliance and Other Requirements Management Standard*.

4.4. Pollution Prevention

- a) Operations shall avoid the release of pollutants to the environment (including air, water and land) during routine, non-routine and emergency/accidental activities. Where release cannot be avoided, operations shall minimise and/or control the intensity and mass flow of their release.
- b) Operations shall consider the release of pollutants with potential to impact at the local, regional, or transboundary/international level. When addressing potential impacts on ambient conditions, operations shall consider the following:
 - the finite capacity of the environment;
 - existing and future land uses (and project expansions onto Vedanta-owned land);
 - existing ambient conditions;
 - proximity to biodiversity-sensitive areas; and
 - potential for cumulative impacts.
- c) Operations shall meet pollution prevention requirements as outlined in relevant Vedanta *Technical Standards*.

4.5. Resource Efficiency

- a) Operations shall implement measures (technical, financial and cost effective) for improving efficiency in relation to the consumption of water, materials and other resources, as appropriate, and concentrating on those that are core to operation activities.
- b) As stated by IFC Performance Standard 3 (Resource Efficiency and Pollution Prevention), operations will adopt principles of cleaner production in product design and production processes.
- c) Operations shall implement technically and financially feasible measures and cost effective options to reduce greenhouse gases (GHGs) associated with the design and activities of the

Technical Standard – Environmental Management

operation/project. For projects or operations that produce more than 25,000 tonnes of CO₂-equivalent on an annual basis, operations shall quantify direct emissions (from the facility and within the physical boundary) and indirect emissions associated with the off-site production of energy) on an annual basis.

- d) Operations that are significant consumers of water shall adopt measures that avoid or reduce water usage to ensure the operation water consumption does not have significant adverse impacts on surrounding communities (or other users of water).
- e) Operations shall meet resource efficiency requirements as outlined in the *Resource Use and Waste Management Technical Standard*.

4.6. Air Quality

- a) Operations shall identify and manage emissions to air from point sources, fugitive sources, mobile sources and from process activities associated with combustion, materials storage and other sources relating to Vedanta activities.
- b) Operations shall apply air quality prevention and mitigation measures where measured (in the case of operational activities) or predicted (in the case of new projects) air quality levels.
- c) Operations shall ensure no new systems or processes are installed that use ozone depleting substances (ODSs) that are scheduled for phase-out under the *Montreal Protocol on Substances that Deplete the Ozone Layer*. For systems and processes that are already in place, operations shall ensure these are managed to meet phase-out dates outlined by the Montreal Protocol.
- d) Operations shall ensure GHGs relating to direct or indirect emissions are managed and controlled in accordance with international requirements.

4.7. Energy

- a) Operations shall ensure an energy management programme is in place to identify energy sources and monitor energy consumption.
- b) Operations shall ensure opportunities for the reduction of energy consumption and implementing energy efficiencies are identified, tracked and implemented where appropriate.
- c) Operations shall ensure energy programmes meet the requirements of the *Vedanta Energy and Carbon Management Policy* and the *Energy and Carbon Management Technical Standard*.

4.8. Water Quality and Wastewater

- a) Operations shall identify and manage wastewater emissions relating to discharges to surface water, sewer systems, land application of treated effluent, and local septic systems. The process shall include confirmation of the location, routes, and integrity of drainage systems and discharge points and the appropriate segregation of wastewater streams.
- b) Operations shall ensure opportunities for reducing wastewater discharges (both in volume and in wastewater quality) are identified, tracked and implemented where appropriate

Technical Standard – Environmental Management

through applying process and technological modifications and wastewater treatment processes.

- c) Operations shall apply wastewater quality prevention and mitigation measures where measured (in the case of operational activities) or predicted (in the case of new projects) wastewater quality levels are insufficient. Operations shall ensure wastewater water quality is managed in accordance with the requirements as set out in the IFC EHS Guidelines.
- d) Operations shall ensure wastewater management programmes meet the requirements of the *Vedanta Water Management Policy, Water Management Technical Standard and Resource Use and Waste Management Technical Standard*.

4.9. Hazardous Materials

- a) Operations shall ensure the use, storage, handling, transportation and disposal of hazardous materials is managed in an effective manner to prevent release, or impact, to the environment or impact human health. Where release or impact to the environment cannot be avoided, uncontrolled releases shall be minimised.
- b) Levels of risk to the environment from hazardous materials shall be established through an effective risk management process (see also *Stakeholder Materiality and Risk Management Management Standard*). Where specific hazard assessments are required, assessment shall be performed by competent internal or external resources and shall utilise internationally-accepted methodologies (e.g. Hazardous Operations Analysis - HAZOP, Hazard Identification – HAZID, etc.).
- c) Where the handling or storage of hazardous materials exceeds local, regional or international threshold limits and is considered a major hazard, appropriate risk management plans shall be developed to prevent the catastrophic release of toxic, flammable, reactive, or explosive materials into the environment and impact the health and safety of Vedanta personnel and other stakeholders.
- d) Operations shall consider reducing the use of hazardous materials and/or consider less hazardous substitutes where hazardous materials are used in current operations or in planned projects.
- e) Where pest management activities are undertaken and chemical pesticides are used, operations shall ensure the selection of chemical pesticides are low in human toxicity, are known to be effective against target species and have minimal effects on non-target species and the environment.
- f) Operations shall not manufacture, purchase, store, or use hazardous materials that are banned under international conventions. In addition, operations shall not purchase, store or use pesticides that fall under the *WHO Recommended Classification of Pesticides by Hazard Class (1a or 1b) or Class 2* pesticides unless, in relation to the latter, the host country to the Vedanta operation has appropriate controls (through restriction of use, provision of training and appropriate equipment) in place to manage distribution and use of these chemicals.

Technical Standard – Environmental Management

4.10. Waste

- a) Operations shall ensure the use, storage, handling and disposal of waste materials is managed in an effective manner to prevent release, or impact, to the environment.
- b) Operations shall ensure opportunities for reducing waste and adopting waste hierarchy of control principles (avoidance, reduce, reuse/recycling) are identified, tracked and implemented where appropriate through applying process and technological modifications and to minimise off-site waste disposal.
- c) Operations shall ensure waste management programmes meet the requirements of the *Resource Use and Waste Management Technical Standard*.

4.11. Environmental Noise

- a) Operations shall ensure noise emanating from Vedanta activities is managed in an effective manner so as to not impact the environment of surrounding communities beyond the operational boundary.
- b) Operations shall reduce noise emissions by apply noise prevention and mitigation measures where measured (in the case of operational activities) or predicted (in the case of new projects) noise levels exceed the applicable noise levels at the most sensitive point of reception (e.g. permanent or seasonal residences, schools, hotels, parks, etc.) OR where noise levels result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site. Applicable noise level (close to the point of reception) guidelines, as set out by the IFC and the World Health Organisation, WHO), are as follows:
 - Residential, institutional, educational receptors – 55 dBA (07.00 – 22.00 hours);
 - Residential, institutional, educational receptors – 45 dBA (22.00 – 07.00 hours);
 - Industrial, commercial receptors – 70 dBA (07.00 – 22.00 hours);
 - Industrial, commercial receptors – 70 dBA (22.00 – 07.00 hours).

4.12. Visual Impact

- a) Operations shall prevent and minimise negative visual impacts through consultation with local communities.
- b) Visual impacts shall be considered for new projects during the ESIA process and for existing operations in operational management plans. Plans (including mitigation measures) shall include consideration of visual impacts during post-closure.

4.13. Land Use and Biodiversity

- a) Operations shall ensure Vedanta activities are managed in an effective manner so as to not impact land use, biodiversity and ecosystem services.
- b) Operations shall implement a risk assessment process that considers direct and indirect impacts on biodiversity and ecosystem services and, where avoidance of impacts is not possible, seeks to minimise impacts and restore land use, biodiversity and ecosystems are

Technical Standard – Environmental Management

defined. This process will be conducted in accordance with the Vedanta Management Standard on *Stakeholder Materiality and Risk Management*.

- c) Operations shall ensure land use, biodiversity and ecosystem services management programmes meet the requirements of the *Vedanta Biodiversity Management Policy* and the *Biodiversity Management Technical Standard*.

4.14. Contaminated Land (including water)

- a) Operations shall ensure contamination of land and water (on-site and off-site) from Vedanta activities is prevented to avoid the risk to human health and ecological receptors. Contamination shall be avoided through the prevention and/or control of release of hazardous materials (including waste materials and wastewater).
- b) The assessment of risk associated with contaminated land and water (and the need for further assessment and action) shall include consideration of the contaminants/pollutants, the receptors and the exposure pathways. The assessment of contamination risks shall consider current and future land use and other development plans (e.g. a more sensitive use of the land such as residential).
- c) Operations shall ensure that, during new projects and/or construction/demolition activities, an assessment of the historical use of the land is undertaken to identify the potential presence of hazardous materials/pollutants.
- d) Where historical contamination is known or exists, operations shall determine whether Vedanta is responsible for mitigation measures.
- e) Where contamination is known or suspected during new projects or during ongoing current operational activities, operations shall identify the cause of contamination to prevent further release and, where feasible, the land shall be remediated to acceptable standards as determined through the risk assessment process. This may include the need for detailed site investigations and quantitative risk assessments and modelling.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure it complies with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

Technical Standard – Environmental Management

- A documented environmental and social impact assessment is current and available.
- All environmental-related operational permits are in place and permit requirements are complied with;
- Monitoring results to establish environmental threshold or pollutant parameters are not exceeded (e.g. in relation to water quality, wastewater, hazardous materials storage, environmental noise, etc.);
- Pollution prevention techniques are adopted and are effective in minimising potential release to the environment and consider the release of pollutants beyond the operational site boundary (e.g. that may affect the local community);
- Measures (technical, financial and cost effective) for improving efficiency in relation to the consumption of water, energy and other resources have been identified, and where feasible, have been implemented;
- The use, storage, handling and disposal of hazardous materials is managed in an effective manner to prevent release, or impact, to the environment;
- Less hazardous substitutes are considered and used in current operations or in planned projects;
- Hazardous materials (including pesticides) that are banned under international conventions or are not used or stored or where materials are required to be phased-out, a replacement/substitution programme is in place;
- Where known or suspected contamination of land (on-site and off-site) has been identified, appropriate risk assessments have been undertaken;
- The EMS has been, and continues to be, certified to the ISO14001 internationally recognised environmental management system standard.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	<p>The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining.</p> <p>http://www.icmm.com/library</p>
International Finance Corporation Performance Standards Guidance Notes	<p>The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions are available however these have not yet been finalised and formally published.</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards</p>

Technical Standard – Environmental Management

Reference	Description
ISO 14011:2004	Guidelines for environmental management systems. http://www.iso.org
World Health Organisation (WHO)	Guidelines for Community Noise, World Health Organization, 1999. http://www.who.int/docstore/peh/noise/guidelines2.html

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 06	HSE Management
POL07	Water Management
POL 03	Biodiversity Management
POL 10	Energy and Carbon Management
MS 02	Stakeholder Materiality and Risk Management
TS 07	Biodiversity Management
TS 09	Resource Use and Waste Management
TS 14	Water Management
TS 16	Energy and Carbon Management

Technical Standard – Occupational Health Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Occupational Health Management

Technical Standard – Occupational Health Management

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Technical Standard – Occupational Health Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Occupational Health Management System	7
4.3. Occupational Health Risk Assessment	8
4.4. Workplace Exposure Monitoring	8
4.5. Occupational Health Surveillance	9
4.6. Noise and Vibration	9
4.7. Hazardous Substances	10
4.8. Asbestos Containing Materials	11
4.9. Ergonomics, Repetitive Motion, Manual Handling	12
4.10. Ionising and Non-Ionising Radiation	12
4.11. Thermal Stress	13
4.12. Fitness for Work	13
4.13. Travel and Remote Site Health	14
4.14. Young Persons at Work	15
4.15. New and Expectant Mothers	15
4.16. General Workplace Health and Welfare Provisions	15
5. ROLES AND RESPONSIBILITIES	16
6. COMPLIANCE AND PERFORMANCE	16
7. SUPPORTING INFORMATION	17
8. REVIEW	18
9. RELATED DOCUMENTATION	18

Technical Standard – Occupational Health Management

1. INTRODUCTION

The purpose of this Technical Standard is to ensure that Vedanta effectively manages the occupational health of the global workforce and contractors and to build a positive health and safety culture through effective management systems. This Standard supports Vedanta's *HSE Policy*.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Affected Communities	Local communities directly affected by the new or existing project.
ALARP (As Low as Reasonably Practicable)	Consideration of the risk against the benefits or non-benefits that are needed to implement measures/controls to avoid the risk – where the cost (not just financial) of implementation of the measures is disproportionate to the benefits, it is not consider to be reasonably practicable.
Competent Person	An individual who has the necessary knowledge, skills and experience to complete their responsibilities safely, effectively and consistently.
Continual Improvement	A recurring process of enhancing the health governance system in order to achieve improvements in overall health performance consistent with Vedanta Mission, Values and Code of Conduct.
Contractor	Any third party organisation which is engaged or commissioned by Vedanta to undertake work or provide services.
Contractor employee	An employee of a contracted company engaged or commissioned by Vedanta to undertake work or provide services, but who are not directly employed by Vedanta. For example, contractor employees working on Vedanta operations, persons working for Vedanta through staff/employment agencies, contract cleaners etc.
Employee	An individual who is engaged to work directly for Vedanta on either a part-time (including hourly paid) or full-time basis and for a fixed period or on permanent basis and is salaried. By virtue of the individual's contract of employment, the employee is obliged to adhere to Vedanta's terms and conditions of employment (specific to Group or the subsidiary employing the individual), and is protected by national (where it exists) and international laws

Technical Standard – Occupational Health Management

Term	Definition
	concerning labour and working conditions.
Ergonomic Factors	Include repetitive motion, overexertion, and manual handling. Injuries or ill-health associated with ergonomic factors take prolonged and repeated exposures to develop, and typically require periods of weeks to months for recovery.
Hazardous Materials	Materials that represent a hazard due to their physical or chemical characteristics.
Hazard	A situation which has the potential to cause harm to people, equipment or the environment.
Health Surveillance	The systematic and regular medical assessments of a person's health to detect for the early signs of potential exposure.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies, as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
ISO (International Standards Organisation)	A non-governmental organisation that sets voluntary standards at an international level covering a variety of industry sectors.
Manual Handling	Any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force.
Noise Induced Hearing Loss or Damage	The temporary or permanent loss of hearing due to exposure to noise. Other conditions resulting from exposure to noise are also included (such as tinnitus).
Occupational Exposure Limit	A concentration of a substance hazardous to health to which most workers can be exposed repeatedly (8 hours/day, 40 hrs/week) without sustaining adverse health effects.
Occupational Illness	Any illness, disability or other physical/mental problem caused or made worse by current or past work.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices, and research and development facilities.
Risk	Combination of probability or frequency of certain hazardous occurrences and severity of impacts resulting from an occurrence.

Technical Standard – Occupational Health Management

Term	Definition
Vector Borne Disease	A disease that is transmitted between hosts by a vector organism such as mosquitoes that carry malaria and dengue fever.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Young Person	A person below the age of 18 years. Whilst Vedanta does not typically or routinely employ or contract persons under the age of 18 years, there may be occasions when they are appointed, for example as part of an apprenticeship or work experience placement. Young persons below the age of 16 years are not permitted in any Vedanta workplace.

4. PROGRAMME REQUIREMENTS

This Technical Standard aims to outline the requirements in order to avoid (or if not possible), minimise, the adverse impact of Vedanta operations on the occupational health of its workforce. The requirements described below shall be followed by all Vedanta subsidiary companies and operations with regards to safety management

4.1. General Requirements

- a) Occupational health management programmes shall meet the requirements of the *IFC Performance Standards, the IFC EHS General Guidelines and the IFC Sector Guidelines*. These requirements are summarised as follows:
- *Performance Standard 2 – Labour and Working Conditions*. This includes the requirement for the protection for basic rights of workers, treating the workforce fairly and providing them with safe and healthy working conditions.
 - *IFC EHS Guidelines* - the EHS Guidelines contain the performance levels and measures that are normally acceptable and applicable to projects or operations. Vedanta operations are expected to refer to these Guidelines (or other internationally recognised sources, as appropriate) when identifying hazards and risks associated with new projects or general operations. Applying the EHS Guidelines for existing operational activities may involve the establishment of operation-specific targets and a timetable for achieving the Guideline requirements. The applicability of the EHS Guidelines will be tailored to the nature and scale of the hazards and risks presented by the Vedanta operation.
 - *IFC Sector Guidelines* - these Guidelines provide the performance levels and measures that are normally acceptable and applicable to projects or operations in specific industry sectors. Industry sector guidelines that may apply to Vedanta operations include mining, base metal smelting and refining, and wind energy.

Technical Standard – Occupational Health Management

4.2. Occupational Health Management System

- a) Every Vedanta Operation shall establish and maintain a health management system that minimises, as low as is reasonably practicable, the hazards and risks to employees and third parties. The management system shall include the following methodology:
- ‘Plan’ – establish objectives and processes required, specifically to identify and manage the risk of exposure to occupational illness and to exceedance of any applicable Occupational Exposure Limits (see also the requirements of the Vedanta Management Standard on *Leadership, Responsibilities and Resources*);
 - ‘Do’ – implement the processes that are designed to minimise exposure to the risks identified in order to prevent the occurrence of Occupational Illness;
 - ‘Check’ – measure and monitor the processes and report results against the objectives;
 - ‘Act’ – take action to improve performance of the management system based on results, and
 - Adopt a continual improvement process.
- b) Operations shall aim to reduce the number of ill-health related incidents to a rate of zero.
- c) Operations shall ensure there is a system in place for reporting, investigating and communicating lessons learnt from health-related accidents/incidents.
- d) Operations shall implement all reasonable precautions to protect the health of employees and third parties and introduce preventative and protective measures according to the following order of priority:
- Hazard elimination by removing the activity from the work process;
 - Hazard control at the source through the use of engineering control mechanism;
 - Hazard minimization through the design of safe systems of work, and administered control measures; and
 - Provision of appropriate Personal Protective Equipment (PPE) in conjunction with training, use and continual maintenance of the personal protective equipment.
- e) Operations shall seek to obtain, and maintain, external certification through a third party of the health management system to the internationally-recognised Health and Safety management system standard OHSAS 18001. The management system will form part of Vedanta’s risk management strategy to address changing legislation and protect the workforce.
- f) Operations shall ensure the risks and impacts to the health and safety of Affected Communities prior to and during the lifecycle of the project/operation and addressing the identified risks and impacts in a manner proportionate with their nature and size.
- g) Operations shall avoid and minimise the potential for community exposure to hazardous situations that may result from on-site project/operation activities.

Technical Standard – Occupational Health Management

- h) Operations shall ensure all occupational health and safety practices and procedures comply with the *Vedanta HSE Policy, Leadership, Responsibilities and Resources Management Standard and the Emergency and Crisis Management Technical Standard*.
- i) Medical records (such as those arising from health monitoring and surveillance) shall be kept in a secure and confidential manner and shall be retained for a minimum of 40 years. Disclosure of medical information is made in accordance with internationally accepted medical protocol.

4.3. Occupational Health Risk Assessment

- a) Each Vedanta Company shall undertake an occupational Health Risk Assessment (HRA) to systematically and proactively identify health hazards in the workplace, assess their potential health effects, measure exposures and characterise the risks, and determine appropriate control measures to protect the health and wellbeing of those who may be affected.
- b) Where a significant risk is identified, a quantitative assessment shall be conducted which shall include personal exposure monitoring to determine the employee exposure in relation to occupational exposure limits (OELs) as defined by relevant national legislation or by international standards, where OELs are absent in national legislation.
- c) The health risk assessment shall consist of a medical examination and testing and functional capacity assessment.
- d) The purpose of all the examinations described above is to determine whether the person being assessed is fit for the position. Following completion of the health assessment the examining medical officer shall complete a Fitness for Work Certificate. Should the individual be unfit for the role, or fit with restrictions, action shall be taken as appropriate.
- e) All significant exposures shall be managed in accordance with the provisions described in Section 4.2 (*Occupational Health Management System*).
- f) The occupational HRA shall be conducted in accordance with national or regional legal requirements and shall be aligned to the international best practice guidance issued by the ICMM (*Good Practice Guidance on Occupational Risk Assessment*).
- g) The occupational HRA is a living document and it shall be reviewed on a regular basis as well as following any accident, incident or changes in processes, tasks or workplace areas.

4.4. Workplace Exposure Monitoring

- a) The working environment shall be monitored for occupational hazards relevant to the specific activities.
- b) Employees exposed to health risks shall be monitored in accordance with relevant legislation or against the IFC EHS General Guideline OELs, whichever is the more stringent.
- c) The sampling and monitoring programme shall be designed and implemented by accredited professionals (such as an occupational hygienist or physician) as part of an occupational health and safety monitoring programme with recognition for acute and chronic health concerns.

Technical Standard – Occupational Health Management

- d) All exposures to health risks in exceedance of relevant legal limits or those referenced in (b) shall be reported to the regulatory authorities (if and as required) and in all cases to the Group Manager responsible for Health and Safety.

4.5. Occupational Health Surveillance

- a) A health surveillance programme shall be implemented to monitor the health condition of all exposed employees both prior to employment, periodically as required on the basis of the HRA and key functional requirements of the individual's role, and upon termination of employment.
- b) Data collected from the health surveillance programme shall facilitate appropriate management decisions to be made through the application of evidence based effective control measures.
- c) Individual data obtained during a health assessment shall be used to facilitate occupational rehabilitation and shall be used in a confidential manner to reinforce specific preventive measures and safe work practices.
- d) Medical examinations shall be conducted by a registered medical officer who shall be either the person's own doctor or who is provided by the Operation. In the case of the person being examined by their own doctor, additional testing may be required by a medical officer approved by the Company to validate the results. Any necessary additional medical testing shall be conducted by a medical specialists approved by the Company as required.
- e) The frequency of the health surveillance shall be based on consideration of the level of health risk, the speed of progression of any potential illness and the requirements of regulatory obligations.

4.6. Noise and Vibration

- a) Every Vedanta facility shall assess the risk of exposure to noise and vibration levels in the workplace and shall implement controls to manage and mitigate this risk in order to protect against the risk of noise induced hearing loss or damage
- b) No employee shall be exposed to a noise level, a peak sound pressure level (instantaneous) or vibration levels greater than those levels specified by national legislation or by IFC EHS Guidelines, where such standards are more stringent than national legislation.
- c) Exposure to elevated noise and / or vibration levels shall be managed through a hierarchical approach comprising:
 - i) Implementation of engineering control measures including the use of acoustic insulating materials and isolation of the noise source, where feasible.
 - ii) Selection of tools and equipment that have been designed to meet current and internationally-recognised standards and guidelines for noise and vibration control.
 - iii) Establishment of systems of work that minimise the use of all tools and equipment that emit elevated levels of noise and vibration.

Technical Standard – Occupational Health Management

- iv) Implementation of planned maintenance programmes that reduce unnecessary noise and vibrations;
 - v) Task and shift design incorporating rest and stretch breaks in work processes, and job rotation;
 - vi) Keeping the number of employees exposed, or likely to become exposed, to a minimum;
 - vii) Provision of personal protective equipment for noise and vibration, where feasible, and
 - viii) Provision of visible information, instruction and training in an easily understood language regarding noise and vibration risks and control measures.
- d) The use of personal hearing protection shall be enforced actively when the equivalent sound level over 8 hours reaches the specified upper action limit, or when the average maximum sound level reaches the level, as specified by national legislation or by international standards, where such standards are more stringent in national legislation.
- e) Hearing protective devices shall be designed to international standards and shall be capable of reducing sound levels at the ear to at least 80 dB(A).

4.7. Hazardous Substances

- a) Every Vedanta facility shall assess the risk of exposure to substances hazardous to health and shall implement controls to manage and mitigate this risk. This assessment shall consider the principle pathways of exposure including inhalation (of particulates, gas and vapour), absorption and ingestion.
- b) Vedanta Companies shall establish measures to minimise exposure to employees and contractors to as low as is reasonably practicable (ALARP), and to ensure that all personnel are protected from any adverse health effects from these hazardous substances.
- c) The use of substances hazardous to health shall be eliminated wherever possible and any internationally banned substances shall not be used under any circumstances. Where elimination is not currently feasible the facility shall have in place a documented phase-out plan.
- d) Exposure to substances hazardous to health shall be managed through a hierarchical approach comprising:
 - i) Replacement of the hazardous substance with a less hazardous substitute;
 - ii) Implementation of engineering and administrative control measures to avoid or minimize the release of hazardous substances into the work environment keeping the level of exposure below internationally established or recognized limits;
 - iii) Keeping the number of employees exposed, or likely to become exposed, to a minimum;
 - iv) Communication of chemical hazards to workers through labelling and marking according to national and internationally recognized requirements and standards,

Technical Standard – Occupational Health Management

- including the International Chemical Safety Cards (ICSC), Materials Safety Data Sheets (MSDS), or equivalent;
- v) Any means of written communication should be in an easily understood language and be readily available to exposed workers and first-aid personnel, and
 - vi) Training workers in the use of the available information (such as MSDSs), safe work practices, and appropriate use of PPE.
- e) Working areas shall be provided, as low as is reasonably practicable, with adequate ventilation and dust / fume extraction systems to ensure that inhalation exposure levels for potentially corrosive, oxidising, reactive or siliceous substances are maintained and managed to relevant ensure OELs can be met.
 - f) Where mechanical air extraction or local exhaust ventilation systems are provided they shall be appropriately selected, fitted and maintained in good working order.
 - g) Emergency and first aid provision e.g. eye wash and emergency shower systems shall be provided in areas where there exists the possibility of chemical contamination or exposure of workers and the need for rapid treatment.
 - h) Material Safety Data Sheets (MSDS) shall be available for all hazardous materials held on site.
 - i) Personal respiratory protection equipment shall be provided and its use enforced in all work areas where all other options for eliminating or reducing the risk of exposure have been considered in order to protect exposed personnel against a significant risk of exposure.
 - j) Respiratory protective equipment shall be designed to the International Standards issued by the International Standards Organisation, the European standards, or alternative equivalent.

4.8. Asbestos Containing Materials

- a) Asbestos containing materials (ACMs) shall not be used in new buildings or as a material in refurbishment or renovation of existing buildings and infrastructure.
- b) Existing facilities with ACMs shall develop an asbestos management plan which clearly identifies the locations where ACMs are present, its condition; control of access, and any other work that may be required to manage and monitor it.
- c) The plan shall be made available to all persons involved in operations and maintenance activities.
- d) Repair or removal and disposal of existing ACMs in buildings should only be performed by personnel licensed to the standard imposed by the UK HSE and/or the US OSHA, whichever is the more stringent and more relevant to the nature of the work required.
- e) The emergency response plan prepared for the Operation shall include arrangements for dealing with accidental exposure to ACMs.
- f) Operations shall ensure that where ACMs are present, all staff that can potentially come into contact with ACMs are trained to understand the risks of exposure to ACMs, to prevent such

Technical Standard – Occupational Health Management

exposure, to avoid damage and to be familiar with the emergency procedure to be followed in the event of exposure.

4.9. Ergonomics, Repetitive Motion, Manual Handling

- a) Every Vedanta facility shall assess the risk of injury or ill-health associated with ergonomic factors, repetitive motion and manual handling in the workplace and shall implement controls to manage and mitigate this risk.
- b) Exposure to substances hazardous to health shall be managed through a hierarchical approach comprising:
 - i) Implementation of engineering control measures including provision of manual handling aids, adjustable work stations to avoid or minimize ergonomic issues, and the need for repetitive motion and manual handling in the carrying out of tasks and activities;
 - ii) Selection and design of tools that reduce force requirements and holding times, and improve postures;
 - iii) Consideration where feasible of special conditions such as left handed persons;
 - iv) Implementation of planned maintenance programmes that reduce unnecessary forces and exertions;
 - v) Task and shift design incorporating rest and stretch breaks in work processes, and job rotation;
 - vi) Multi-person lifts in the absence of suitable mechanical aids;
 - vii) Keeping the number of employees exposed, or likely to become exposed, to a minimum, and
 - viii) Provision of information, instruction and training in an easily understood language regarding safe manual handling techniques, safe work practices, and appropriate use of PPE.

4.10. Ionising and Non-Ionising Radiation

- a) Operations shall identify, assess and minimise the hazards and risks of exposure to ionising and non-ionising radiation.
- b) Operations shall establish and maintain control measures to avoid or reduce the exposure to radiation. The control measures should be operated in accordance with recognised international safety standards and guidelines.
- c) Every Vedanta facility shall establish a radiation dosimetry monitoring programme for all employees potentially exposed to natural or artificial sources of ionising radiation.
- d) Emergency arrangements shall be implemented and maintained to ensure an appropriate response to an incident of over-exposure to a source of ionising radiation.

Technical Standard – Occupational Health Management

- e) Arrangements for the protection of employees exposed to sources of non-ionising radiation shall be established and maintained and shall include provision of suitable protective clothing; management of work-rest regimes to control exposure; education and awareness campaigns.
- f) Personnel shall be provided with information, instruction and training in an easily understood language regarding risks and control measures associated with sources of ionising and non-radiation.

4.11. Thermal Stress

- a) Every Vedanta Operation shall assess the risk of exposure to thermal stress and shall implement controls to manage and mitigate this risk.
- b) The following exposure controls shall be implemented to protect personnel working in hot/cold temperatures:
 - i) Acclimatisation of personnel arriving from cooler/warmer climates;
 - ii) Use of mechanical aids to reduce the physical workload (hot climates);
 - iii) Unlimited provision of potable drinking water;
 - iv) Means of heating food / water when working in cold temperatures and of keeping food/water cool when working in hot temperatures;
 - v) Monitoring weather forecasts for outdoor work to provide advance warning of extreme weather and scheduling work accordingly;
 - vi) Appropriate design of work-rest regime to allow for sufficient rest breaks particularly when undertaking physical and strenuous work;
 - vii) Provision of a cool / warm and sheltered shaded rest environment, and
 - viii) Selection of work attire and personal protective equipment suitable for the work environment;
- c) Provision of information, instruction and training to maintain awareness of the risks, early warning signs and symptoms, and the emergency measures to be taken.

4.12. Fitness for Work

- a) Operations shall conduct a risk assessment to identify its safety critical roles and shall implement a programme to manage the fitness for work of those personnel involved in these roles. Special consideration shall be given to shift and night workers; and those engaged in physical or strenuous work; or machine-paced, complex or monotonous work.
- b) Operations that operate a night shift shall ensure that the shift pattern is appropriately designed to manage fatigue and other sources of ill-health exposure and that the shift system regularly reviewed.

Technical Standard – Occupational Health Management

- c) Every Vedanta Company shall establish and maintain an alcohol and other drugs policy and management programme which shall include periodic testing to be applied as appropriate across its operations on the basis of an assessment of risk.
- d) Operations shall establish a healthier life-style promotion programme such that workers can maintain a level of health and fitness that reduces the incidence of fatigue and facilitates individual fitness for work.
- e) Personnel shall be provided with information, instruction and training in an easily understood language regarding risks and control measures associated with fitness for work.
- f) A pre-placement medical assessment shall be conducted on all new employees/new starters that is appropriate to the role for which they are being recruited and periodic surveillance shall be performed on the basis of the assessment of risk associated with that role.
- g) A post-employment medical assessment shall be conducted on all employees.

4.13. Travel and Remote Site Health

- a) To minimise risk from health impacts associated with frequent travel to and extended stays in remote sites the following mitigation measures shall be established:
 - i) Integrated management programmes and controls to prevent both chronic and acute illnesses through appropriate sanitation, vector borne disease, and protection against harmful flora and fauna;
 - ii) Management of risks associated with operating at altitude;
 - iii) Design, management and maintenance of facilities and practices for food preparation, storage and disposal to minimize risk of illness;
 - iv) Sourcing of food products from reliable suppliers which meet international standards for food safety, sanitation and hygiene so as to ensure that food provided by Vedanta Operations is free from harmful contaminants;
 - v) Procedures to ensure that the production, transportation, storage and preparation of food is carried out in hygienic conditions without risk;
 - vi) Arrangements to provide healthier foods as part of a broader health and wellbeing programme;
 - vii) Personnel shall be provided with information, instruction and training in an easily understood language regarding risks and control measures associated with travel and remote site health, and
 - viii) Persons travelling to foreign countries shall conduct a risk assessment and be supplied with the recommended vaccinations to prevent contraction of illness local the point of destination.

Technical Standard – Occupational Health Management

4.14. Young Persons at Work

- a) Operations shall establish and maintain arrangements for the protection of the health of young persons at work.
- b) The arrangements referred to in (a) shall include an appropriate health risk assessment as well as regular monitoring of the young person's health, working conditions, and hours of work.
- c) Young persons shall not be permitted to work in a hazardous or unhealthy work environment or under difficult conditions such as long hours or night shift work.
- d) Young persons shall be provided with at least one key point of contact that will be responsible for their health and safety on a day to day basis, and shall receive information, instruction and training pertaining to their work activities, and the health and safety hazards, risks and controls in the workplace.

4.15. New and Expectant Mothers

- a) Operations shall establish and maintain arrangements for the protection of women of child-bearing age where the work is of a kind which could involve risk to the health and safety of a new or expectant mother, or to that of her baby.
- b) An employee shall notify local Vedanta management in writing that she is pregnant, has given birth within the previous six months, or is breastfeeding.
- c) The arrangements referred to in (a) shall include an appropriate and specific health risk assessment as well as regular monitoring of the person's health, working conditions, and hours of work.

4.16. General Workplace Health and Welfare Provisions

- a) The temperature in work areas, rest rooms and other welfare facilities shall during working hours be maintained at a level appropriate for the purpose of the facility.
- b) Where there is potential for exposure to substances poisonous by ingestion, suitable arrangements shall be made for provision of clean eating areas where workers are not exposed to the hazardous or noxious substances.
- c) Sufficient fresh air shall be supplied for indoor and confined work spaces. Factors to be considered in ventilation design include physical activity, substances in use, and process-related emissions. Air distribution systems shall be designed so as not to expose workers to draughts.
- d) Heating, ventilation and air conditioning (HVAC) and industrial evaporative cooling systems shall be equipped, maintained and operated so as to prevent growth and spreading of disease agents (e.g. Legionella pneumophila) or breeding of disease vectors (e.g. mosquitoes). Air inlet filters should be kept clean and free of dust microorganisms.

Technical Standard – Occupational Health Management

- e) Lighting levels shall be appropriate for the nature of the work being undertaken and shall comply with national or regional legal requirements or the provisions of the IFC General EHS Guidelines – Occupational Health and Safety (Table 2.3.3) whichever is the more stringent.
- f) Adequate lavatory facilities (toilets and washing areas) shall be provided for the number of people expected to work in the facility and allowances made for segregated facilities. Toilet facilities shall be provided with adequate supplies of hot and cold running water, soap, and hand drying devices.
- g) Where workers may be exposed to substances hazardous to health and there is the risk of contamination of the skin, hair or clothing, facilities for showering and changing into and out of work clothes shall be provided along with a laundering service for used work clothes.
- h) Emergency first aid and medical treatment provisions shall include the following provisions:
 - i) Qualified first-aid shall be provided at all times. Appropriately equipped first-aid stations shall be easily accessible throughout the place of work;
 - ii) Eye-wash stations and/or emergency showers shall be provided close to all workstations where immediate flushing with water is the recommended first-aid response;
 - iii) According to the scale of work or the type of activity being carried out, dedicated and appropriately equipped first-aid room(s) shall be provided. First aid stations and rooms shall be equipped with gloves, gowns, and masks for protection against direct contact with blood and other body fluids;
 - iv) Remote sites shall have written emergency procedures in place for dealing with cases of trauma or serious illness up to the point at which patient care can be transferred to an appropriate medical facility, and
 - v) Where more than five hundred workers are employed, a certified Medical Officer shall be provided or as per local regulations.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure it complies with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where necessary, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

Technical Standard – Occupational Health Management

- A written Health Risk Assessment no more than 24 months old is in place.
- Conformance to internationally published occupational health exposure guidelines;
- Regular inspection and testing of all safety features and hazard control measures;
- Calibration of occupational hygiene monitoring equipment (if owned by Vedanta) or validation of calibrations performed on contractors' equipment;
- Regular review of occupational health risk assessments;
- Occupational health monitoring / surveillance of exposed staff;
- Monitoring of occupational ill-health and disease, and
- Regular monitoring of training activities for employees and visitors.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
ICMM Good Practice Guidance on Occupational Health Risk Assessment	This Good Practice Guidance on Occupational Risk Assessment has been developed by ICMM to provide those practitioners with the information and tools they need to assess the health and wellbeing of employees and contractors. http://www.icmm.com/page/14660/
IFC Performance Standards Guidance Notes	The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions are available however these have not yet been finalised and formally published. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards
IFC General EHS Guidelines - Occupational Health and Safety	The IFC has published General EHS Guidelines which contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors. They are designed to be used together with the relevant industry sector guideline(s). http://www.ifc.org/ifcext/sustainability.nsf/Content/EHSGuidelines

Technical Standard – Occupational Health Management

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 06	HSE Policy
MS 01	Leadership, Responsibilities and Resources
MS 02	Stakeholder Materiality and Risk Management
MS 09	Document and Records Management
TS 10	Safety Management

Technical Standard – Emergency and Crisis Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Emergency and Crisis Management

Technical Standard – Emergency and Crisis Management

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Signature	
Position:	Chief Sustainability Officer

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Technical Standard – Emergency and Crisis Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	5
4.1. General Requirements	5
4.2. Crisis Management	5
4.3. Identification of Potential Emergency Situations	6
4.4. Emergency Preparedness and Response Plans	6
4.5. Development of Emergency Preparedness and Response Plans	7
4.6. Business Continuity	8
4.7. Resourcing	9
4.8. Roles and Responsibilities	9
4.9. Communication Systems	10
4.10. Training and emergency response drills	10
4.11. Monitoring, Evaluation and Review	11
5. ROLES AND RESPONSIBILITIES	11
6. COMPLIANCE AND PERFORMANCE	11
7. SUPPORTING INFORMATION	12
8. REVIEW	12
9. RELATED DOCUMENTATION	12

Technical Standard – Emergency and Crisis Management

1. INTRODUCTION

The purpose of this Technical Standard is to ensure that there are appropriate emergency response and crisis management planning structures and systems in place, along with sufficient resources available to implement these, so that each Vedanta operation is able respond effectively to crisis and emergency situations. This Standard supports Vedanta’s *Health, Safety and Environmental Policy*.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Affected Party	Stakeholders who are affected by the company or operation, both positively and negatively. Within this it is possible to distinguish between those that are directly affected and indirectly affected by the company or operation.
Crisis	A situation or event that is of a magnitude such that it has the potential to impact safety of life, lead to significant environmental damage, impact continuity of business or the reputation of Vedanta across its wider operations. Extraordinary resources are often required to manage the crisis effectively and bring it under control.
Crisis Management	The measures, decisions and application of necessary resources to bring a crisis under control and manage it effectively.
Communication	Communication is exchanging (giving and receiving) information. Communication enables Vedanta to convey the aspects, risks and opportunities of their operations, and to receive information from a range of stakeholder’s concerns, questions and suggestions shared in response.
Emergency	An unplanned occurrence that may result in risks to human health, property, or the environment, and requires an immediate response in order to contain it and/or limit its consequences.
Emergency Response	The decisions and measures taken to contain and/or mitigate the effects of an emergency, to prevent any further impact and to regain control and restore order in its immediate aftermath, and then recover to a normal state. This process is facilitated by an Emergency Response Team and Emergency Preparedness and Response Plans, which should both exist at

Technical Standard – Emergency and Crisis Management

Term	Definition
	the Vedanta Company and operation level.
Emergency Preparedness and Response Plan	A formalised document that sets out the responses and procedures to each potential incident, emergency or crisis situation that has been identified.
Incident	An event or chain of events which caused or could have caused injury, illness, loss of assets or potential or actual damage to relationships or reputation.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices and research and development facilities.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries Limited etc.).

4. PROGRAMME REQUIREMENTS

All Vedanta subsidiary companies and operations are required to follow the requirements listed below with regards to emergency and crisis management.

4.1. General Requirements

- a) Crisis situations shall be managed centrally by Vedanta Group and Vedanta Companies and in accordance with the requirements outlined in Section 4.2. Operations shall also have procedures in place to ensure crisis situations are escalated to Vedanta Companies and Vedanta Group as appropriate.
- b) Emergency situations shall be managed by Vedanta operations and reported to Vedanta Companies and Vedanta Group as appropriate.
- c) Incidents shall be managed at the operation level and reported in accordance with operation, Vedanta Company and Vedanta Group reporting requirements. See also Management Standard MS11 on *Incident Reporting, Escalation and Investigation*.
- d) Emergency Preparedness and Response Plans shall be developed, implemented and maintained at the operation, Company and Group level to deal with incidents, emergencies and crisis situations.

4.2. Crisis Management

In the case of incidents having become emergencies and which, when using professional judgement, are deemed sufficiently serious in nature to require external support then the Vedanta Company CEO or Top Management will “call a crisis”. The Vedanta Company CEO or Top

Technical Standard – Emergency and Crisis Management

Management will do this by activating their own Company Crisis Management team and by calling either the Vedanta Resources CEO, CFO or CSO, whose responsibility it will then be to activate the central crisis management team. Procedures for crisis management should be established as follows:

- a) A crisis management team shall be established at the Vedanta Group level and at each Vedanta Company level.
- b) Members of the crisis management teams and their alternates shall be made aware of their roles and responsibilities, and adequate training provided.
- c) The Group crisis management team shall provide strategic direction and support to operation emergency response teams where a major incident has occurred and is in risk of further escalating.
- d) The crisis management team shall be capable of coordinating the provision of extraordinary resources where it is required to bring an incident under control.
- e) The crisis management team shall be capable of managing global communications strategy. A process should be in place for a call centre to handle incoming calls from government representatives, family members, local, national and international journalists etc.
- f) A defined process shall be in place at the Group and operation level for the escalation of emergencies to a Group-level crisis.

4.3. Identification of Potential Emergency Situations

- a) Each Vedanta operation shall systematically identify all reasonably foreseeable emergency and crisis situations, especially low probability/high consequence events.
- b) The potential impacts of each situation shall be assessed and documented by competent personnel through risk assessment, using methodologies appropriate to the scale and nature of the risk. This will include consideration of the individuals and communities that might be affected by potential emergency situations.
- c) Neighbouring activities adjacent to the site shall also be considered, along with potential off-site emergency and crisis situations (such as transport of personnel or hazardous materials).

4.4. Emergency Preparedness and Response Plans

Emergency Preparedness and Response Plans shall be developed and implemented at the Vedanta operation level, and this will usually form the basis of the primary response to an incident, emergency or crisis. In most cases this should be able to effectively manage the emergency through to closure at the site level. However, in the case of a crisis situation where there is a risk of the situation escalating further, further assistance may be required (See Section 4.2).

Technical Standard – Emergency and Crisis Management

- a) Response strategies shall be commensurate with the nature, scale and associated hazards and risks of the operation.
- b) Emergency and crisis management plans shall be established as early as possible.
- c) Stakeholder engagement shall be carried out to ensure that inputs from all relevant stakeholders are incorporated in the identification of risks and development of Emergency Response Plans, including employees, contractors, local emergency services, local government/regulators and local communities.
- d) Roles and responsibilities shall be established and clearly communicated to ensure adequate resourcing for the implementation of Emergency Preparedness and Response Plans.
- e) Emergency Preparedness and Response Plans shall be communicated to all relevant stakeholders in a clear and timely manner.
- f) Arrangements shall also be implemented to ensure conformance to the requirements of relevant *IFC Performance Standards*. The key IFC provisions are summarised as follows:
 - *General EHS Guidelines: Community Health and Safety*. Section 3.7 on Emergency Preparedness and Response sets out the requirement for all projects to have an Emergency Preparedness and Response Plan that is commensurate with the risks of the facility. It sets out the basic elements of the plan, and provides further details on the key components: communication systems, emergency resources, training and updating, and business continuity and contingency.

4.5. Development of Emergency Preparedness and Response Plans

Each Vedanta Company/operation shall develop Emergency Preparedness and Response Plans that set out the responses to each potential emergency situation that has been identified and considers escalation to crisis situations.

- a) Each Emergency Preparedness and Response Plan shall set out the following:
 - the procedures in place for identification, notification and escalation of incidents, emergencies and crisis situations;
 - emergency response procedures to be undertaken, including how best to prevent / mitigate illnesses and injuries arising from emergency situations;
 - clearly defined management structures, roles and responsibilities for handling an emergency or crisis situations including required training to be given in advance for each role;
 - the resource requirements, including equipment, human and financial, and how and from where these will be provided;
 - organisation of emergency areas (e.g. assembly points, incident rooms/command centres, medical stations);

Technical Standard – Emergency and Crisis Management

- arrangements for provision of emergency medical treatment and, if necessary, medical evacuation;
 - the communication plan, and communication systems in place including provision for a call centre and the notification of fatalities to the closest relative/family member;
 - a process should be in place to handle incoming calls from government representatives, family members, local, national and international journalists etc.
- b) When developing each plan, the following shall also be considered:
- the findings from the risk identification process;
 - the worst case scenarios identified;
 - the availability of local emergency services, and their response capabilities;
 - experiences and associated learning from previous emergencies (both on-site, elsewhere in Vedanta and in other comparable companies);
 - industry best practice; and
 - legal and other requirements.
- c) Each plan shall be documented and made easily accessible.
- d) Each plan shall be aligned with Vedanta Group Crisis management procedures and business continuity procedures.

4.6. Business Continuity

- a) In addition to bringing an incident, emergency or crisis situation under control, each operation should also consider how business continuity can be most effectively achieved during and in the aftermath of emergency and crisis situations and to allow business management teams to manage the ongoing business after the initial response. As a minimum, each Vedanta operation shall consider creating a back up of critical information held in a secure and separate location.
- b) Operations shall also identify and provide appropriate and sufficient back-up resources, including:
- alternative sources of water, electricity and fuel;
 - alternative facilities from which to operate temporarily;
 - alternative or additional manpower; and
 - alternative supply chain options.

Technical Standard – Emergency and Crisis Management

4.7. Resourcing

- a) Each operation shall identify and document the resources required to ensure the effective implementation of the emergency and crisis management procedures. Resource requirements shall meet the requirements of the Vedanta Management Standard MS01 on *Leadership, Responsibilities and Resources*.
- b) The following resources shall be considered and made available as necessary:
 - trained and competent personnel;
 - equipment and other materials including Personal Protective Equipment (PPE);
 - warning devices;
 - medical services, including personnel trained in first aid, and medical equipment that is appropriate to the type of operation;
 - emergency services support; and
 - emergency funding, along with an appropriate mechanism for delivering funds.
- c) The capacity of external resources, such as local fire fighting capacity, shall be assessed, and additional resources acquired and maintained at the operation where external resources are deemed insufficient.
- d) The resources identified shall be maintained and tested on a regular basis, and their adequacy reviewed periodically.

4.8. Roles and Responsibilities

- a) Each operation shall clearly define the roles and responsibilities of all personnel involved in the implementation of Emergency Preparedness and Response Plans.
- b) This should include the following:
 - Employees;
 - Contractors;
 - Emergency services;
 - Legal advisors; and
 - External regulators (where relevant).
- c) All roles and responsibilities should be documented and communicated to the relevant people, with expectations clearly established.

Technical Standard – Emergency and Crisis Management

- d) Flexibility in the make-up of the emergency response teams is required, as it will depend on the exact nature of each emergency, and will not therefore normally be organised as fully predetermined groups. All personnel shall therefore be made aware of the Emergency Preparedness and Response Plans.
- e) A system should be established to ensure there is a duty manager continuously in place. Each duty manager should be adequately trained, and capable of making effective decisions and authorising emergency response actions.
- f) A contact list for all internal and external resources and personnel should be maintained in hard and soft copies and made easily accessible, so they can be easily contacted in the event of an emergency.

4.9. Communication Systems

- a) Adequate alarms and warning devices, along with other forms of communication, shall be maintained to reliably alert workers across the whole site in the event of an emergency.
- b) Independent back-up communications systems shall be provided in case the emergency incident makes the normal communication system inoperable.
- c) Each operation shall ensure that the means are in place to alert the local community/neighbouring businesses in the event of an emergency that has the potential to put present a risk.
- d) A process should be in place to communicate emergency information to the media, through a trained and appointed spokesperson who can interact with relevant stakeholders, and through written press releases.
- e) A process and sufficient equipment should be in place to handle incoming calls from government representatives, family members, local, national and international journalists etc.

4.10. Training and emergency response drills

- a) Employees, contractors, visitors and external stakeholders shall all be trained in and understand the Emergency Preparedness and Response Plans, their roles and responsibilities, and the use of emergency response resources. The exact training needs shall be identified based on the requirements, roles and responsibilities, and capabilities of the individual(s) concerned. Competency and training needs shall meet the requirements of the Vedanta management Standard MS06 on *Competency, Training and Awareness*.
- b) Emergency response drills and exercises shall be carried out. These should:
 - Include, desk-based exercises, emergency response exercises that involve the testing of equipment and logistics, and full evacuations;
 - be scheduled regularly, at least once a year for full drills and six monthly for desk-based exercises, although the exact frequency and type of drills shall depend on the nature and scale of the operations, and the associated risks;

Technical Standard – Emergency and Crisis Management

- include the involvement of external emergency response organisations, and other external stakeholders, where appropriate.

4.11. Monitoring, Evaluation and Review

- a) Documented reviews should be carried out after all drills and actual emergency responses to determine the effectiveness of the Emergency Preparedness and Response Plans, with a full debrief to identify what worked well and what aspects require improvement.
- b) Lessons learned following exercises or actual emergency situations/incidents shall be documented, and any gaps in planning and implementation shall be addressed in revised versions of the Emergency Preparedness and Response Plans. Lessons learned shall be shared across Vedanta's operations where appropriate.
- c) All Emergency Preparedness and Response Plans shall be reviewed and updated periodically, at least on an annual basis, to ensure they remain appropriate and relevant. Reviews shall also meet the requirements of the Vedanta Management Standard MS14 on *Management Review and Continual Improvement*.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure that it complies with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level and which meet the requirements as set out in the *Sustainability Data Management Technical Standard*.

The evaluation of performance shall include, as a minimum, confirmation that:

- each operation has identified all reasonably foreseeable emergency incidents;
- an Emergency Preparedness and Response Plan has been developed for each emergency situation identified, and it is commensurate to the level of associated risk;
- a centralised Crisis Management Team has been established to provide strategic advice and support on major incidents at risk of further escalation;

Technical Standard – Emergency and Crisis Management

- the resources required to ensure the effective implementation of the emergency and crisis management procedures have been identified, documented and made available;
- each operation has clearly defined the roles and responsibilities of all personnel, including alternates, involved in the implementation of Emergency Preparedness and Response Plans;
- training has been provided to all relevant personnel, and emergency response drills are carried out and documented on a regular basis.
- all Emergency Preparedness and Response Plans are reviewed and updated periodically.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	<p>The ICMM, in collaboration with UNEP, have produced a detailed guide on Good Practice in Emergency Preparedness and Response:</p> <ul style="list-style-type: none"> • http://www.icmm.com/page/746/emergency-response
International Finance Corporation EHS Guidelines	<p>The IFC's General EHS Guidelines: Community Health and Safety includes a section on Emergency Preparedness and Response:</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/gui_EHS_Guidelines2007_GeneralEHS_3/\$FILE/3+Community+Health+and+Sa fety.pdf</p>

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Technical Standard – Emergency and Crisis Management

Doc. Ref.	Document name
POL 06	HSE Policy
MS 06	Competency, Training and Awareness
MS 11	Incident Reporting, Escalation and Investigation
MS14	Management Review and Continual Improvement
TS 21	Sustainability Data Management

Technical Standard – Water Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard
Water Management

Technical Standard – Water Management

Standard Title:	Water Management	Date of Revision	02/12/11
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Position:	Chief Sustainability Officer

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Technical Standard – Water Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Existing Projects and Operations	7
4.3. Water Resources Risk Screening Assessment	7
4.3.1. Water Resources Management Plan	8
4.3.2. Legal and Other Requirements	9
4.3.3. Provision of Drinking Water and Sanitation	9
4.3.4. Water Balance	9
4.3.5. Water Use Reduction	10
4.3.6. Wastewater Treatment and Discharge	10
4.3.7. Emergency Preparedness and Response	11
4.3.8. Participatory Monitoring	11
4.3.9. Measuring and Monitoring	11
4.3.10. Knowledge and Awareness	12
4.4. New Projects	12
4.4.1. Impact Assessment	12
4.4.2. Impact Assessment	13
4.4.3. Water Resources Management Plan	13
5. ROLES AND RESPONSIBILITIES	13
6. COMPLIANCE AND PERFORMANCE	14
7. SUPPORTING INFORMATION	14
8. REVIEW	16
9. RELATED DOCUMENTATION	16

Technical Standard – Water Management

1. INTRODUCTION

Vedanta recognises the social, economic and environmental value of water and the impacts that its operations and activities may have on water resources. Protecting water resources is a priority for Vedanta and it is integral to our commitment to sustainable development. In recognition of this commitment and in accordance with our Water Management Policy this Standard aims to facilitate the integration of water management into decision making processes for new and existing projects and to help ensure that all necessary measures are taken to avoid, minimize and in some cases compensate for the impacts of our projects. This Standard supports Vedanta's *Water Management Policy*.

The assessment and management of impacts of new projects shall be considered as part of the overarching environmental and social impact assessment and therefore this document should be read in conjunction with the *Conducting ESIA to International Standards* Technical Standard for such purposes. For existing projects, reference shall also be made to existing environmental management provisions adopted at a Company and site level.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries and their operational or managed sites, including new acquisitions, corporate offices and research facilities, and to all new and existing employees and contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Affected Communities	Local communities directly affected by the new or existing project.
CAO	The Office of the Compliance Advisor/Ombudsman, an independent post that reports directly to the President of the World Bank Group.
Cumulative Effects	Based on the IFC description, cumulative impacts are those that result from the incremental impact of the project when added to other existing, planned and reasonably predictable future projects and developments. Water-related effects include: cumulative quantity (over-abstraction) and cumulative quality (impairment of water bodies) impacts.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies as well as 30 national and regional mining associations and global commodity associations.

Technical Standard – Water Management

Term	Definition
WHO Drinking Water Guidelines	The revised Guidelines for Drinking Water Quality were published by the World Health Organisation (WHO) on 4 th July 2011 and are typically used in the absence of any local/national standards for drinking water quality. These guidelines establish the quality standards that should be achieved for water to be classified as drinking water, as well as broader water safety considerations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Lifecycle	The phases of a Vedanta mining project including exploration and planning, evaluation, operation and closure.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Participatory Water Monitoring	Based on the CAO description, this is a collaborative process of collecting and analysing water data, and communicating the results, in an attempt to identify and solve problems as a partnership between the Vedanta site and its affected communities. It includes a variety of people in all stages of the monitoring process, and incorporates methods and indicators meaningful to the stakeholders concerned.
Stakeholders	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and interested third parties.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Water Accounting	The systematic collation of the water balance information from each site within each Company to enable the Group Sustainability Committee to measure, record and report aspects of water resources management associated with its operations and activities.
Water Balance	A calculation of the total volume of water inputs (for direct and indirect uses) and outputs (i.e. wastewater) for each Vedanta site.

Technical Standard – Water Management

4. PROGRAMME REQUIREMENTS

This technical standard has been prepared in order to protect water resources from the impacts that its operations and activities may have on them. It describes mechanisms for identifying, evaluating, managing and protecting water resources that may be impacted by an existing or proposed Vedanta activity or operation.

4.1. General Requirements

- a) The requirements included in this Technical Standard shall be adhered to by all Vedanta Companies as applicable.
- b) Arrangements shall be created, implemented and maintained so that the requirements of applicable local, regional, national legislation are complied with.
- c) Arrangements shall also be implemented to ensure conformance to the requirements of the *IFC Performance Standards*.
- d) The key IFC provisions are summarised as follows:
 - *Performance Standard 1 – Assessment and Management of Social and Environmental Risks and Impacts* – The relevant objectives of this standard are to identify and assess social and environment impacts, both adverse and beneficial, in the project's area of influence; to avoid, or where avoidance is not possible, minimize, mitigate, or compensate for adverse impacts on workers, affected communities, and the environment; to ensure that affected communities are appropriately engaged on issues that could potentially affect them and to promote improved social and environment performance through the effective use of management systems. The key considerations in so far as they relate to this Technical Standard are: the need to undertake a risk and impact assessment; the need for a management programme of mitigation and performance improvement measures; community engagement; monitoring and reporting;
 - *Performance Standard 3 – Pollution Prevention and Abatement* – The relevant objective of this standard is to avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. The key considerations in so far as they relate to this Technical Standard are: use of pollution prevention and control technologies and techniques during all stages of the project lifecycle; resource conservation; emergency preparedness and response and existing ambient conditions (of surface and groundwater resources), and

Technical Standard – Water Management

- *Performance Standard 6 – Biodiversity Conservation and Sustainable Natural Resource Management* – The relevant objectives of this standard are to protect and conserve biodiversity and to promote sustainable management and use of natural resources through the adoption of practices that integrate conservation needs and development priorities. The key considerations in so far as they relate to this Technical Standard are: natural resources impact assessment; impact management / mitigation in areas of modified, natural and critical habitats; protection, promotion and enhancement of legally protected areas (all of which may comprise water-based habitats); and sustainable management and use of renewable natural resources.

4.2. Existing Projects and Operations

All existing Vedanta companies shall create, implement and maintain arrangements for sustainable water management at all locations including but not limited to offices, manufacturing sites, distribution infrastructure, mines, etc.

4.3. Water Resources Risk Screening Assessment

- a) All Vedanta Companies shall conduct a basic screening assessment to identify sensitive water resources and aquatic habitats and any known or suspected water resources constraints within and in proximity to each owned/managed operation and facility.
- b) Constraints that shall be considered include (but not limited to):
 - a naturally water stressed environment, with a high prevalence of droughts and water shortages;
 - the presence or planned development of other water intensive industrial and/or agricultural activities, in particular commercial agriculture, agro-processing facilities and power generation and supply;
 - any planned infrastructure in the river basin, such as hydropower schemes, river diversions etc;
 - a highly polluted water environment, e.g. where there are significant and poorly regulated industrial or agricultural activities upstream of the operation; or
 - groundwater resources that may be at risk from induced saline intrusion or other sources of contamination if pumping activities occur.
- c) This screening assessment shall be achieved using for example the World Business Council for Sustainable Development Water Tool (or other internationally recognised proprietary) database as well as by referring to other available sources of information as appropriate such as government management strategies or action plans, media and the internet to determine the need and priority to further examine water constraints, biodiversity attributes in so far as they relate to water and aquatic ecosystem services issues.

Technical Standard – Water Management

- d) The outcome of this exercise shall be a prioritised list of all sites on the basis of risk. Sites situated in an area of high water resources value and/or with vulnerable aquatic ecosystem services, and sites located outside an area of high water resources value but which impact such an area will be classified as high risk. Medium and low risk sites shall be classified on the basis of distance from such areas, and extent of impact.

4.3.1. Water Resources Management Plan

- a) On the basis of the assigned priority rating of each site a Water Resources Management Plan (WRMP) shall be prepared and implemented to eliminate, minimize, mitigate and manage impacts on water resources and shall be commensurate with the level of risk.
- b) For operations and facilities that have been identified as high risk, the collection of further information shall be undertaken in order to inform the development of the WRMP.
- c) For high risk operations and facilities, the WRMP shall include provision for the following issues. For medium and low risk facilities the following issues may be included as appropriate on the basis of an assessment of local needs and requirements:
- Withdrawals from sensitive water bodies;
 - Operational activities and arrangements for preventing the discharge of harmful substances into the soil and groundwater;
 - Security of supply and forecasted changes in demand;
 - Planning and preparation for potential climate change impacts that could disrupt or change the availability of water resources;
 - Societal values and conflicting uses in the context of ecosystem services;
 - Affected communities' ownership and access rights to water resources;
 - Impacts on landscape / ecological processes as a result of major long term changes in water use arising from site operations and activities (e.g. impact on habitat function of water catchments due to reduced flow);
 - Transboundary impacts such as water pollution of international surface waters;
 - Cumulative effects and the impacts of mining and minerals processing on operational, local and regional water systems, and
 - Strategies that contribute to the improvement of ambient conditions when the project has the potential to constitute a significant source of emissions in an already degraded area.
- d) The WRMP shall detail the arrangements for the periodic internal and external measurement and reporting (as required) of the impact management activities.

Technical Standard – Water Management

- e) The WRMP shall be integrated into the Company, Operation or Project Social and Environmental Management Plan.

4.3.2. Legal and Other Requirements

- a) All Vedanta Companies shall identify all relevant local, regional and national legislative requirements on water management and biodiversity conservation that are relevant to each of its owned and/or managed operations and facilities.
- b) Arrangements shall be established to ensure compliance with all such requirements, and to surpass them where practicable.
- c) All applicable international conventions shall be identified and complied with in all jurisdictions in which it operates.
- d) Vedanta shall consider opportunities to protect and enhance water resources and aquatic environments in modified and natural habitats beyond the scope of legal compliance and the requirements of international standards.

4.3.3. Provision of Drinking Water and Sanitation

- a) All Vedanta Companies shall ensure that all sites and facilities (including contractor camps; refer to the *Supplier and Contractor Management* Technical Standard TS06) are supplied with a secure supply of drinking water and with adequate sanitation facilities.
- b) Where drinking water is provided by the Company, it shall be treated to conform with WHO and / or national standards, whichever are the more stringent.
- c) In the absence of a municipal sewerage connection alternative infrastructure for sanitary waste disposal shall be established such as piped connection to septic tanks and provisions for appropriate disposal of waste.
- d) Documentation shall be maintained that details the sources of the site's water supply, the drinking water and sanitation network, the quantity and quality of water abstracted for use and the quality of the wastewater discharged by the site.
- e) Arrangements shall be established to maintain the water and sanitation infrastructure.

4.3.4. Water Balance

- a) A water balance shall be calculated and maintained by each Company location. This shall consider the following:
 - Identification of the total volume of water withdrawn from any water source (surface waters, groundwater, rainwater, waste water from another company, municipal water);
 - Water withdrawn directly by the Company or through intermediaries such as water utilities;

Technical Standard – Water Management

- Volumes used for each different purpose (e.g. drinking water, sanitation, process);
 - Volume of returns to the environment through leakage, treated wastewater discharges, evaporation etc, and
 - Volume of reused / recycled water and as a percentage of the total water used or withdrawn.
- b) The water footprint shall be reviewed on an annual basis and updated as required and reported to the Company head office.
- c) Each Company shall collate the annual water balances from all its facilities and use these to determine Company-level performance goals and water resources targets for the forthcoming year.
- d) The water balances collated by each Company or Operation shall be submitted to the Group Sustainability Committee for the purposes of the annual Group management review, performance reporting and continual improvement in accordance with the *Sustainability Data Management* Technical Standard TS21 and the *Management Review and Continual Performance* Management Standard MS14.

4.3.5. Water Use Reduction

- a) As part of the annual sustainability performance improvement review, an annual assessment shall be conducted to identify opportunities for minimising the amount of water consumed including direct reduction of freshwater demand by using alternative supplies (such as recycled process water).
- b) Identify and act upon opportunities to upgrade the design of site infrastructure to enhance water conservation measures (such as replacement of old pipe work to reduce leakage) as part of the planned preventative maintenance programme.
- c) Identify and act upon opportunities to assist the local communities to better manage their water consumption (such as through maintenance of storage and distribution infrastructure) such that additional water becomes available for use by the site (referred to as water consumption offsetting).
- d) All Vedanta companies shall identify and implement measures for recycling and reuse of wastewater such as recirculation of process water for cooling or rain water harvesting.
- e) The findings of the assessment shall be incorporated as appropriate into the proposed improvement plan for the forthcoming reporting year in the form of objectives and targets.
- f) For sites that extract water (ground and surface water), measures shall be implemented where possible to promote groundwater recharge in order to counter the impact of water removal and augment supply (referred to as rainwater harvesting).

4.3.6. Wastewater Treatment and Discharge

Technical Standard – Water Management

- a) All process waste water shall be treated to international best practice standards through the application of best available techniques (BAT) before being discharged to the environment.
- b) Surface water runoff shall be controlled so as to prevent soil erosion, protect water bodies and aquatic biodiversity from impact due to sediment loading and pollutants, and to prevent localised flooding.
- c) Sanitary waste shall be treated in such a manner that it does not present a risk to the environment or to human health.
- d) Prior to discharging any water to the environment, the quality of the water shall be verified to ensure that it meets any applicable legal, corporate and permitting obligations.
- e) A zero discharge philosophy shall be applied at all sites.

4.3.7. Emergency Preparedness and Response

- a) Each Vedanta operation and facility shall, on the basis of an assessment of risk, include in its emergency response plan a section designed to prevent, mitigate and control the unplanned or uncontrolled release of waste water into the natural environment.
- b) Each Vedanta operation and facility shall establish the necessary arrangements for ensuring adequate and appropriate training, resources, responsibilities, communication, procedures and other aspects are available to effectively respond to emergency situations.

4.3.8. Participatory Monitoring

- a) Arrangements shall be established to facilitate participatory water monitoring with affected communities in order to constructively monitor and manage any conflicting water use issues that may arise during the project lifecycle. Reference shall be made to relevant guidance provided by the CAO.
- b) Arrangements shall be established for the regular reporting to stakeholders on the Company's management of water resources and the progress towards water conservation achievements.
- c) Vedanta companies shall participate in local or regional water catchment planning activities to secure sustainable water resources for Vedanta operations and the activities of other users outside of the organisation.
- d) All engagement with affected communities shall be conducted in line with the *Stakeholder Engagement* Technical Standard TS05 and issues shall be managed in accordance with the *Grievance Mechanisms* Technical Standard TS04.

4.3.9. Measuring and Monitoring

- a) Using the GRI Mining and Metals Sector Supplement each Vedanta Company shall monitor performance in managing water resources issues.

Technical Standard – Water Management

- b) Each Vedanta Company shall develop performance indicators on the basis of corporate and legal requirements and using the following GRI Mining and Metals Performance Indicators:
 - EN8 - Total water withdrawal by source;
 - EN9 - Water sources significantly affected by withdrawal of water, and
 - EN10 - Percentage and total volume of water recycled and reused.
- c) On the basis of the risk classification, each operation or facility shall also establish arrangements for monitoring its performance against the relevant indicators established by the Company.
- d) Every facility shall regularly monitor water flows and compare these against performance targets to manage abstraction and consumption and to identify opportunities to reduce it.
- e) Every operation shall establish and monitor performance against targets for water consumption reduction and for improving the quality of produced waste water. Targets shall be set in accordance with the *Data Management, Performance Monitoring and Reporting Management Standard MS 10*.

4.3.10. Knowledge and Awareness

- a) Arrangements shall be implemented to support water resources, aquatic environments, ecosystem services and conservation research efforts carried out by local, regional and national research groups in order to further knowledge and understanding of such attributes in Vedanta's areas of operation.
- b) Mechanisms shall be created and implemented to provide information and raise awareness among employees, customers and suppliers and other stakeholders to enhance knowledge and understanding of water resources, aquatic environments and conservation issues.

4.4. New Projects

4.4.1. Impact Assessment

- a) For any new project that is planned, an initial assessment shall be undertaken to determine if it will be necessary to undertake a formal international standard Environmental and Social Impact Assessment (ESIA). Reference shall be made to the provisions of local legislative requirements and to the IFC Performance Standard PS1 on the Assessment and Management of Social and Environmental Risks and Impacts.
- b) For projects that require an ESIA the *Conducting ESIA's to International Standards Technical Standard TS08* shall be followed.
- c) For projects that do not fall within the scope of an ESIA, a water resources risk screening assessment shall be undertaken as described in 4.3 and the potential impacts subsequently managed as required in accordance with the provisions of a water resources management plan as described in Section 4.3.1.

Technical Standard – Water Management

4.4.2. Impact Assessment

- a) The scope of the ESIA will depend on the nature and scale of the project and sensitivities of water resources attributes in the project area but in any case shall include:
 - Desktop study and consultations;
 - Baseline water resources survey;
 - Assessment of ecosystem services;
 - Impact and dependency assessment;
 - Reporting, and
 - A Management Plan.
- b) For all new projects water resource attributes and ecosystem services in the proposed area shall be identified and potential project impacts and dependencies assessed.
- c) Vedanta shall ensure that the Baseline Water Resources Survey establishes a core set of assessment criteria (indicators) which will form the basis of impact analysis and the definition of mitigation and management measures.

4.4.3. Water Resources Management Plan

- a) A Water Resources Management Plan (WRMP) shall be prepared that details the actions that are identified during the impact assessment to prevent, minimise and mitigate impact to vulnerable water resources during the project lifecycle.
- b) The WRMP shall include as appropriate those considerations detailed in Section 4.3.1 (for water resources management associated with existing projects) as well as other considerations that arise out of the impact assessment and mitigation planning for the new project.
- c) The WRMP shall also include all items as necessary to ensure conformance with Vedanta's Water Management Policy.
- d) The WRMP shall be integrated into the Social and Environmental Management Plan described in the *Conducting ESIA's to International Standards* Technical Standard TS08.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

Technical Standard – Water Management

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- All existing projects have arrangements in place to ensure safe drinking water and sanitation services are provided at all sites and facilities.
- A water balance is prepared annually by each site and is reported to the Company Head Office.
- A water account is prepared annually by each Company and reported to the Group Sustainability Committee to enable it to fulfil its duties for data reporting and continual improvement.
- Clear, transparent and formal arrangements are implemented and followed for participatory water monitoring and evidence is available to document consultations with affected communities and implementation of actions to address issues and concerns as part of this process.
- Evidence is available to demonstrate the actions taken to reduce and monitor sustainable water management initiatives regarding water consumption reduction, water reuse and recycling, water treatment, and minimum or zero discharges.
- Regular monitoring of company-supplied drinking water and of waste water discharges is conducted to ensure that local/national or international standards are complied with as appropriate, and that any non-conformances are managed appropriately.
- A water resources impact assessment is incorporated into the ESIA conducted for all new projects.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has recently produced and published a good practice guidance document 'Indigenous Peoples and Mining' which whilst it is written for indigenous peoples and therefore may not be relevant to all projects, contains useful guidance and references to cultural heritage. The ICMM has also produced many other best practice documents on a range of health,

Technical Standard – Water Management

Reference	Description
	<p>safety, environment and community issues relating to mining.</p> <p>http://www.icmm.com/library</p>
Global Reporting Initiative (GRI)	<p>The Global Reporting Initiative (GRI) is a network-based organization that produced an internationally applicable sustainability reporting and disclosure framework. The GRI periodically updates the framework and also provides sector-specific guidance on its application to environmental, social and governance performance.</p> <p>http://www.globalreporting.org/Home</p>
IFC Performance Standards Guidance Notes	<p>Provides detailed guidance for adopting and implementing the requirements of the different Performance Standards.</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards</p>
The Office of the Compliance Advisor/Ombudsman (CAO)	<p>An independent post that reports directly to the President of the World Bank Group. The CAO reviews complaints from communities affected by development projects undertaken by the private sector lending and insurance members of the World Bank Group, the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA). The CAO also offers advice and guidance to IFC and MIGA, and to the World Bank Group President, about improving the social and environmental outcomes of IFC and MIGA projects. The CAO has issued an advisory note on preventing and managing water conflict through participatory water monitoring (see Section 9 below for reference).</p>
World Business Council for Sustainable Development (WBCSD) Water Tool	<p>The WBCSD has created a tool which is freely available online to enable companies and organisations to map their water use and assess risks relative to their global operations and supply chains.</p> <p>http://www.wbcSD.org/work-program/sector-projects/water/global-water-tool.aspx</p>
World Health Organisation (WHO)	<p>WHO is the directing and coordinating authority for health within the United Nations system. It is responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends.</p> <p>http://www.who.int/en/</p>

Technical Standard – Water Management

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 07	Water Management
MS 10	Data Management, Performance Monitoring and Reporting
MS 14	Management Review and Continual Performance
TS 04	Grievance Mechanisms
TS 05	Stakeholder Engagement
TS 06	Supplier and Contractor Management
TS 08	Conducting ESIA to International Standards Technical Standard
TS 21	Sustainability Data Management
CAO Advisory Note	Participatory Water Monitoring – A Guide for Preventing and Managing Conflict
GRI version 3	Indicator Protocols Set – Environment - Mining and Metals Sector Supplement

Technical Standard – Security Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Security Management

Technical Standard – Security Management

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Technical Standard – Security Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	5
4.1. General Requirements	5
4.2. Security Risk Assessment	6
4.3. Security Plan	7
4.4. Security Administration and Organisation.	7
4.5. Training and Competency and Awareness	8
4.6. Personnel Security	8
4.7. Communication and Consultation	9
4.8. Access Control	9
4.9. Security Drills and Exercises	9
4.10. Security Records and Documents	10
4.11. Security Systems and Equipment Maintenance	10
4.12. Inspection and Monitoring of Security Measures	10
4.13. Security Incident Procedures	10
4.14. Security Audit	11
4.15. Security and the Community	11
5. ROLES AND RESPONSIBILITIES	12
6. COMPLIANCE AND PERFORMANCE	12
7. SUPPORTING INFORMATION	12
8. REVIEW	13
9. RELATED DOCUMENTATION	13

Technical Standard – Security Management

1. INTRODUCTION

The purpose of this Technical Standard is to ensure that Vedanta manages security risks to its personnel and physical assets and that these risks are managed in a structured and systematic manner that ensures the health and safety of Vedanta employees and others; and that supports our policies in relation to sustainability and protection of the environment. This Standard supports Vedanta's *Health, Safety and Environmental Policy*.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees, contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure). This standard excludes information security and fraud, bribery and corruption. Operations shall refer to ISO27001 relating to Information Security Management Systems.

3. DEFINITIONS

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

Term	Definition
Competent Person	An individual who has the necessary and sufficient knowledge, skills and experience, as well as the necessary experience to complete their responsibilities safely, effectively and consistently.
Contractor	Any third party organisation which is engaged or commissioned by Vedanta to undertake work or provide services.
Contractor employee	An employee of a contracted company engaged or commissioned by Vedanta to undertake work or provide services, but who are not directly employed by Vedanta. For example, contractor employees working on Vedanta operations, persons working for Vedanta through staff/employment agencies, contract cleaners etc.
Environmental and Social Management System	The structured framework that provides the arrangements for managing the environmental, health, safety and social aspects through the lifetime of the project.
Environmental Social Impact Assessment (ESIA)	A formalised process designed to identify, assess and document environmental and social impacts associated with a project, along with the mitigation measures and management arrangements for ensuring such measures are implemented.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies, as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.

Technical Standard – Security Management

Term	Definition
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices, and research and development facilities.
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and interested third parties.
Stakeholder Engagement	An umbrella term encompassing a range of activities and interactions between Vedanta and its stakeholders over the life of a project that are designated to promote transparent, accountable, positive, and mutually-beneficial working relationships. Stakeholder engagement includes stakeholder identification and analysis, information disclosure, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Security Plan	A document that describes the Project or Operation’s plan to address security issues and related events including control measures and response measures for security threats. See also Vedanta Integrated Physical Security Plan.

4. PROGRAMME REQUIREMENTS

This Standard aims to define the minimum processes that need to be established to manage sustainability risks associated with the security of Vedanta’s personnel, products and property. The sustainability risks associated with security will depend on the nature of personnel activities, the type of operation and its location. The requirements described below shall be followed by all Vedanta subsidiary companies and operations with regards to the management of security.

4.1. General Requirements

- a) Vedanta Group and operations shall ensure that the requirements of this Technical Standard are adhered to as part of the security of their operations to ensure that environmental, social, safety and health impacts are systematically considered in the effective management of security risks.
- b) Security management shall also meet the requirements of the *IFC Performance Standards*. These requirements are summarised as follows:

Technical Standard – Security Management

- Performance Standard 4 – Community Health, Safety and Security. Vedanta will ensure that the safeguarding of personnel and property is carried out consistently with relevant human rights principles and in a manner that avoids or minimizes risks to the Affected Communities. Security will be provided in a manner that does not jeopardize the community's safety and security, or the Vedanta's relationship with the community and it will be consistent with national requirements, including national laws implementing host country obligations under international law, and the requirements of Performance Standard 4 which are consistent with good international practice.

4.2. Security Risk Assessment

- a) Operations shall ensure that a security risk assessment process is in place to identify potential security risks to the operations personnel and property.
- b) The process shall include identification of the location specific 'security threat' scenarios that could impact on the operation and the identification of the likelihood and significance of the risks that could result from the threats. Operations shall ensure that the security risk assessment is documented.
- c) The security risk assessment shall identify 'High', 'Medium', 'Low' and 'Insignificant' security risks to the operations. Operations shall establish and specify in the risk assessment whether the risks have been accepted, transferred, or will be controlled and/or mitigated.
- d) Key security threats that shall be included in the security risk assessment, but not limited to, are:
 - Terrorism;
 - Organised crime;
 - Community unrest;
 - Political risk;
 - Labour unrest;
 - Armed robbery;
 - Occupation of an operation or project by local community action group;
 - Bomb threat;
 - Theft from offices and operations;
 - Arson;
 - Vandalism;
 - Attack on personnel;
 - Loss of production;
 - Kidnap of personnel;
 - Suspect packages; and
 - Intentional release from a process unit or storage tank.
- e) Vedanta operations shall consider security risks associated with the entire range and stages of their operational activities, including personnel, fixed assets and property and products, and materials being transported. The risks and impacts identification process shall also address negative impacts on workers and the surrounding communities.

Examples of Vedanta's range of operations that may be subject to security risks include:

Technical Standard – Security Management

- Buildings (administration offices, corporate offices);
 - Equipment (tanks, processing units, control systems, boilers, turbines, heaters, fuel storage, explosives etc.);
 - Support systems (utilities, water supply, wastewater treatment plants, sewer systems etc.)
 - Transport (loading/unloading facilities, docking areas, vessels, off-site storage areas etc.)
 - Cyber systems and information (computer systems, networks, laptops, cell/mobile phones etc.); and
 - Travel (travel between operations, to operations, in-country travel and international travel).
- f) The process should engage all relevant business functions to ensure a comprehensive and co-ordinated approach is adopted.
- g) Security risk assessments shall be performed periodically and when there is a change in layout, change to external facilities and operations, and after drills and inspections where required.

4.3. Security Plan

- a) Operations shall develop a baseline security plan to outline the arrangements to address the High and Medium risks identified in the risk assessment.
- b) The plan shall define the controls to reduce High and Medium risks to an acceptable level. These shall comprise as appropriate, a mixture of physical controls (e.g. barriers, layout) as well as security monitoring activities (e.g. inspections and security guard control), resources and procedures.
- c) The security plan shall define and describe the arrangements for the implementation of Requirements 4.4 to 4.14 of this Standard and shall also meet the requirements as set out in the Vedanta Integrated Physical Security Plan document.
- d) The security plan shall be periodically updated to reflect new information and the current security risks and changing situations.

Security arrangements will typically depend in large part on security risks in the operating environment. In many circumstances, a night watchman may be all that is required, together with some basic security awareness training for staff, sign-posting, or well-placed lighting and fences. In more complex operations and higher risk security environments or travel in a high risk country, Vedanta operations may have to directly employ further security personnel or engage private security contractors, or even work directly with public security forces given in some countries private security may not be permitted (Refer to Section 4.14 on Security and the Community).

4.4. Security Administration and Organisation.

- a) Vedanta operations shall ensure that a security manager or representative is appointed or nominated to manage security risks at the operation and to promote a security culture within the operation.
- b) The operation shall define and identify in the security plan, other personnel with security responsibilities along with a description of their duties. Personnel with security duties shall

Technical Standard – Security Management

include as appropriate, but are not limited to security supervisors, security guards, receptionists that confirm the identification of visitors etc.

- c) A local security incident management team shall be appointed to manage security incidents.

4.5. Training and Competency and Awareness

- a) Operations shall ensure that those undertaking security duties have the required competencies to perform their role. This shall include pre-employment checks and references and ensuring they hold relevant qualifications in accordance with local and national legislation. Security guards shall be vetted in accordance with BS 7858 or equivalent.
- b) Individuals conducting security risk assessments shall be competent; support may be obtained by external providers if required.
- c) The security manager/representative and those with other security responsibilities shall be provided with security related training to enable him/her to perform his/her duties competently. This shall include training and guidance on the issuing and use of firearms and ammunition.
- d) Specialist training shall be provided to chauffeurs, security guards and other staff who may face specific security risks.
- e) Site/office security is included in the induction of all new employees and contractors and training (see Section 4.6 below regarding training).
- f) This incident management team shall be trained in managing security incidents.
- g) Visitors shall be informed of relevant security requirements upon arrival at the operations.

4.6. Personnel Security

- a) Operations shall develop a personnel security programme to include all locations where employees and contractors are exposed to risk including for offices, sites, and for expatriates residences.
- b) Access to security advice shall be available to all staff.
- c) An employee security awareness programme shall be developed in line with local security threats identified from the security risk assessment as applicable. This shall comprise at a minimum, information on dealing with security risks such as bomb warnings, suspect mail, abusive phone calls, and aggressive visitors, periodic security awareness briefings including cautioning employees not to speak to outsiders concerning operations related security issues and to abide by security procedures.
- d) In locations where there is significant personnel security risk, staff shall be given regular briefings and practical security awareness training annually or when the risk increases.
- e) For expatriate employees and dependent:
 - a pre-employment briefing shall be provided;
 - secure accommodation shall be provided commensurate with risk;
 - in country security awareness shall be provided and specialist training where a serious and specific threat is identified; and
 - Access to 24 hour assistance shall be in place.

Technical Standard – Security Management

4.7. Communication and Consultation

- a) The operations shall determine and define what communications are required for implementing the security plan and arrangements and implement accordingly. This shall include but is not limited to:
 - Communications between employees in transit and at fixed asset operations (radios/telephone);
 - Communication between the operation and off-site responders and support (e.g. emergency services and appropriate agencies);
 - Communication between transport and the fixed operations;
- b) Vedanta shall communicate and consult on its security arrangements to employees and Stakeholders such as local law enforcement, subject to overriding safety and security needs, and involve workers and surrounding communities in discussions about the security arrangements through the community engagement process described in the Vedanta Technical Standard TS05 on *Stakeholder Engagement*.

4.8. Access Control

- a) Vedanta operations shall implement effective access control security measures at all operations which controls access into, within and out of an operation.
- b) The level of access control shall be dependent on the criticality of the area. If the operation designates certain areas as high risk or protected, these shall be subject to a higher level of control or restriction. These areas shall be identified on the security plan.
- c) Access control shall include as a minimum but not be limited to:
 - Sign in access procedures for visitors, employees and contractors;
 - Escorting policies and procedures for visitors, contractors and other persons who seek access;
 - Physical security measures, such as key fob entry, fencing, barriers, locks, lighting, and intrusion detection as appropriate; and
 - Ensuring security of support systems and site services (electrical and gas supplies etc.).

Other control mechanisms that shall be considered for 'High' and 'Medium' risk operations include.

- Security guards/dogs;
- Requirements for employees, visitors contractors, truck drivers, railroad crews, government officials and others who may seek access to provide a means of identification;
- Screening and searching procedures for vehicles, baggage, hand carried articles; and
- Mail and package screening systems where identified as high risk.

4.9. Security Drills and Exercises

- a) Each Vedanta operation shall conduct periodic security drills and exercises across the identified security threat scenarios as identified by the risk assessment. The extent and frequency of the drills shall be documented in the security plan.
- b) A follow up process to address actions from drills and exercises shall be in place and follow up actions shall be tracked to completion.

Technical Standard – Security Management

Based on the risk assessment, for example, a specific Vedanta Low risk operation may find that no drills or exercises are warranted, others may find short focussed activities that test one portion of the security programme (e.g. vehicle searches by main gate guards); whilst higher risk operations may require full scale roll out or table top exercises involving multiple groups and off-site responders.

4.10. Security Records and Documents

- a) A process shall be implemented for maintaining security related records and their prevention from disclosure. Where possible, existing EHS, quality and other record keeping systems shall be used to avoid duplication and overlap. Maintenance of documentation shall be undertaken in accordance with the Vedanta Group Standard MS09 on *Documentation and Records Management*.

4.11. Security Systems and Equipment Maintenance

- a) Security equipment shall be subject to an inspection, test and preventative maintenance programmes. This shall include but not be limited to camera systems, lighting, intruder alarms, fencing etc.

4.12. Inspection and Monitoring of Security Measures

- a) Operations shall ensure that property and assets are regularly monitored for unauthorised access and this is detailed on the security plan. The frequency and nature of the monitoring shall be appropriate to the nature and location of the operation.
- b) Monitoring shall comprise checks and patrols around the property at a minimum whilst for higher risk, more complex operations, a combination of personal monitoring (guards and dogs) and technology (CCTV intrusion detection and surveillance) may be required. Unmanned low risk operations shall be subject to periodic checks for signs of unauthorised access.
- c) Issues identified from checks and monitoring should be recorded, action(s) to address the issues identified and closed within a defined timescale.

4.13. Security Incident Procedures

- a) Each operation shall define in the security plan what events constitute a security breach, the required action, roles and responsibilities of those involved, who is to be notified and the escalation process involved.
- b) The plan should outline the resources and equipment required for an appropriate response and an orderly recovery process.
- c) Vedanta operations shall ensure that contingency plans are in place to deal with security incidents. Contingency plans shall cover where relevant, building evacuation, bomb threats, kidnap etc.
- d) The plans shall be co-ordinated with the operations emergency plan and crisis management plan to ensure that decisions involving regional and corporate crisis management team are detailed along with engagement with the media, community and other stakeholders.

Technical Standard – Security Management

- e) A procedure shall be implemented for investigation of security breaches and the requirements for investigation of security incidents including identifying areas for improved security or control measures.
- f) Security incidents shall be reported by operations in the local reporting system and to Vedanta Group in line with the *Incident Reporting and Investigation Management Standard MS11*.
- g) Employees shall be made aware of the requirement to report the presence of unknown personnel, unidentified vehicles, abandoned packages and other suspicious activities.

4.14. Security Audit

- a) The operation shall define how the security plan and arrangements are audited. This shall include periodicity, audit team, reporting requirements and follow up.
- b) Regular audits shall be undertaken of the security plan to evaluate the effectiveness of arrangements and risk control techniques. Findings from audits shall be actioned and the security plan updated as required.

Operations may wish to use an existing EHS auditing process or develop their own security audit processes.

4.15. Security and the Community

- a) Vedanta operations shall provide security arrangements in a manner which does not jeopardise the community's safety and security and Vedanta's relationship with it. To achieve this, security arrangements shall include:
 - Investigation process for any allegations of unlawful or abusive acts of Vedanta's security personnel;
 - A reasonable process to ensure those providing security are not implicated in past abuses;
 - Ensuring operations do not sanction any use of force except when used for preventive and defensive purposes in proportion to the nature and extent of the threat;
 - Adequate training in the use of force (and where applicable, firearms), appropriate conduct toward workers and Affected Communities, and require them to act within the applicable law;
 - A grievance mechanism to enable communities to express concerns about the security arrangements and acts of security personnel. The grievance mechanism shall meet the requirements of the Vedanta Technical Standard TS4 on *Grievance Mechanisms*;
 - Operations shall avoid as far as possible, the need for employees or security contractors to be armed, there are situations where firearms are appropriate. In such circumstances, it is important that clear instructions are given on how firearms and force should be used. Refer to OGP Guidelines on the use of Firearms;
 - Operations whose assets are being protected by public security forces shall encourage those forces to behave consistently with the requirements and principles set out above for private security personnel in order to promote and maintain good relations with the community. Operations shall communicate their principles of conduct to public security forces, and express their desire that security be provided in a manner consistent with those standards by personnel with adequate and effective training. Operations shall

Technical Standard – Security Management

request that the government discloses information about the arrangements, subject to overriding safety and security needs.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure it complies with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- A security risk assessment process is in place.
- Security plans have been completed and implemented.
- Assigned Vedanta personnel who undertake security roles have the appropriate competency levels.
- Security plans have defined roles and responsibilities for those involved in security management.
- Security requirements are communicated to all employees, visitors and contractors.
- Access control is provided and implemented;
- Security incident contingency plans are in place and drills are undertaken periodically;
- Incidents are investigated and subject to corrective action;;
- Inspections and audits of security arrangements are conducted and any issues identified have been recorded and addressed.
- Community issues related to security arrangements are addressed.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
International Finance	The IFC has published Guidance Notes to guide the

Technical Standard – Security Management

Reference	Description
Corporation Performance Standards Guidance Notes	implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions (V2) are available however these have not yet been finalised and formally published. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards
Fire Arms and the Use of Force	http://www.ogp.org.uk/pubs/320.pdf .
Vedanta Integrated Physical Security Plan	Vedanta Group document aimed to develop, implement and monitor an effective and tailor made integrated physical security plan with a benchmark for all industrial units of Vedanta.
BS 7858	Baseline Personnel Security Screening

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 06	HSE Policy
MS 09	Documentation and Records Management
MS 11	Incident Reporting and Investigation
TS 04	Grievance Mechanisms
TS 05	Stakeholder Engagement

Technical Standard – Energy and Carbon Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Energy and Carbon Management

Technical Standard – Energy and Carbon Management

Standard Title:	Energy and Carbon Management	Date of Revision	02/12/2011
Standard:	VED/CORP/SUST/TS 16	Revision:	v.1

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DATE	REVISION NUMBER	CHANGE SUMMARY
02/12/2011	1	Initial issue.

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Signature	
Position:	Chief Sustainability Officer

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Technical Standard – Energy and Carbon Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	5
4.1. General Requirements	5
4.2. Existing Projects and Operations	6
4.2.1. Energy and Carbon Assessment	Error! Bookmark not defined.
4.2.2. Energy and Carbon Management Plan	7
4.2.3. Legal and Other Requirements	7
4.2.4. Research, Innovation and Investment	8
4.2.5. Measuring and Monitoring	8
4.2.6. Knowledge, Awareness and Communication	9
4.3. New Projects	9
4.3.1. Relevant Considerations	9
4.3.2. Impact Assessment	9
4.4. Group-Wide Reporting	10
4.4.1. Energy and Carbon Emissions Performance	10
4.4.2. Group-Wide Guidance for Vedanta Companies	10
5. ROLES AND RESPONSIBILITIES	11
6. COMPLIANCE AND PERFORMANCE	11
7. SUPPORTING INFORMATION	12
8. REVIEW	13
9. RELATED DOCUMENTATION	13

Technical Standard – Energy and Carbon Management

1. INTRODUCTION

Vedanta acknowledges the global concern on climate change and recognizes that concerted and sustained global action is required to reduce the scale of the problem and to adapt to its impacts. Vedanta is committed to this effort through our own progressive energy and carbon management programme that forms an integral part of our vision for sustainable development and is consistent with our overall business vision and mission. In recognition of this commitment and in accordance with our energy and carbon policy this Standard aims to facilitate the integration of energy and carbon management into decision making processes for new and existing projects, and to help ensure that all necessary measures are taken to avoid and minimize the carbon emissions arising from our projects. It also sets out the process through which Vedanta will report on its overall carbon and energy management performance.

The assessment and management of impacts of new projects shall be considered as part of the overarching environmental and social impact assessment and therefore this document should be read in conjunction with the *Conducting ESIA to International Standards Technical Standard* for such purposes. For existing projects, reference shall also be made to existing environmental management provisions adopted at a Company and site level.

2. SCOPE

The guidance in this Technical Standard is mandatory and applies to all Vedanta operations and managed sites. The Standard applies to all new and existing projects and is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Carbon Footprint	For each Vedanta Company, the carbon footprint is the sum of the GHG emissions arising annually across the company's sites, operations and facilities.
CO ₂ e (CO ₂ equivalent)	A measure which takes account of the global warming potential (GWP) of GHGs other than CO ₂ (eg methane), expressed as the equivalent weight of CO ₂ that would lead to the same global warming potential as the weight of that GHG. Methane has a GWP ca. 22 times greater than that of CO ₂ and so each tonne of methane emitted has the same global warming potential as 22 tonnes of CO ₂ .
GHG (Greenhouse Gas) Emissions	Emissions of the six gases that form part of the Kyoto Protocol to the United Nations Framework on Climate Change, namely: Carbon dioxide (CO ₂) / methane (CH ₄) / nitrous oxide (N ₂ O) hydrofluorocarbons (HFCs) / perfluorocarbons (PFCs) sulphur hexafluoride (SF ₆)

Technical Standard – Energy and Carbon Management

Term	Definition
GHG (Greenhouse Gas) Accounting	The systematic collation of GHG emissions information from each site within each Company to enable the Group Sustainability Committee to measure, record and report aspects of GHG emissions associated with its operations and activities.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Lifecycle	The phases of a Vedanta mining project including exploration, pre feasibility, feasibility, planning, evaluation, operation and closure.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Stakeholders	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and interested third parties.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)

4. PROGRAMME REQUIREMENTS

This technical standard has been prepared in order to manage and reduce GHG emissions arising across Vedanta's sites and operations. It describes mechanisms for monitoring, managing, minimising and reporting GHG emissions across existing or proposed Vedanta activities or operations, and over the entire Vedanta Group.

4.1. General Requirements

All Vedanta subsidiary companies and operation are required to follow the requirements listed below with regards to energy and carbon management.

- a) Arrangements shall be created, implemented and maintained so that the requirements of applicable local, regional, national legislation are complied with.

Technical Standard – Energy and Carbon Management

- b) Arrangements shall also be implemented to ensure conformance to the requirements of the *IFC Performance Standards*. The key IFC provisions are summarised as follows:
- *Performance Standard 1 – Assessment and Management of Social and Environmental Risks and Impacts* – The relevant objectives of this standard are to identify and assess social and environment impacts, both adverse and beneficial, in the project’s area of influence; to avoid, or where avoidance is not possible, minimize, mitigate, or compensate for adverse impacts on workers, affected communities, and the environment; to ensure that affected communities are appropriately engaged on issues that could potentially affect them and to promote improved social and environment performance through the effective use of management systems. The key considerations in so far as they relate to this Technical Standard are: the need to undertake a risk and impact assessment (including the consideration of GHG emissions and the risks arising from a changing climate and the project’s adaptation opportunities); the need for a management programme of mitigation and performance improvement measures; and monitoring and reporting;
 - *Performance Standard 3 – Resource Efficiency and Pollution Prevention* – The relevant objectives of this standard are to promote more sustainable use of resources, including energy and water; to reduce project-related GHG emissions; and to avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. The key considerations in so far as they relate to this Technical Standard are: consideration and use of resource efficiency and pollution prevention principles and techniques during all stages of the project lifecycle, particularly the implementation of technically and financially feasible and cost-effective options to reduce project-related GHG emissions during the design and operation of projects. These options may include, but are not limited to alternative project locations, adoption of renewable or low carbon energy sources, sustainable agricultural, forestry and livestock management practices, the reduction of fugitive emissions and the reduction of gas flaring; and the use of benchmarking data (where available) to provide insights into the relative efficiencies achievable.

4.2. Existing Projects and Operations

- a) All existing Vedanta companies shall create, implement and maintain arrangements for energy and carbon monitoring and management at all locations including but not limited to offices, manufacturing sites, distribution infrastructure, mines, etc.

4.2.1. Energy and Carbon Assessment

- a) All Vedanta Companies shall conduct an energy and carbon assessment for each location which shall take into account GHG emissions of each of the six principal GHG Emissions
- b) Each location’s energy and carbon assessment shall quantify direct emissions from the facilities owned or controlled within the physical project boundary and indirect emissions associated with the off-site production of power used by the project. The energy and carbon assessment shall be conducted in accordance with internationally recognised methodologies. Guidance shall be provided by Vedanta Group to ensure that Vedanta Companies undertake these assessments in a consistent manner.

Technical Standard – Energy and Carbon Management

- c) The energy and carbon assessment for each location shall be undertaken annually and shall form a constituent part of Vedanta Group's energy and carbon monitoring process.
- d) Particular attention shall be paid to assessments for locations giving rise to more than 25,000 tonnes of CO₂e annually.

4.2.2. Energy and Carbon Management Plan

- a) An Energy and Carbon Management Plan (ECMP) for each location shall be developed, to identify alternatives and to guide implementation of options to reduce GHG emissions for that location. The scope of the ECMP shall be commensurate with the scale of emissions identified within the location's energy and carbon assessment, and shall focus on areas that are considered core business activities as appropriate.
- b) The ECMP shall identify approaches, measures and options for reducing or offsetting GHG emissions that are suitable for implementation at the site subject to technical and financial feasibility and cost-effectiveness considerations. These measures shall be considered across the lifecycle of the location.
- c) Measures and options for reducing or offsetting GHG emissions within the ECMP may include, but are not limited to:
 - Alterations to project or location design to remove or reduce sources of emissions;
 - Energy efficiency improvements;
 - The adoption of renewable or low-carbon energy sources;
 - Carbon financing;
 - Emissions offsets;
 - Other mitigation measures.
- d) The ECMP shall include provision where appropriate for reducing or offsetting emissions associated with the eventual closure of locations.
- e) The ECMP shall be integrated into the Company or Project Social and Environmental Management Plan.
- f) The ECMP shall also include other items as necessary to ensure conformance with Vedanta's Energy and Carbon Policy.

4.2.3. Legal and Other Requirements

- a) All Vedanta Companies shall identify all relevant local, regional and national legislative requirements on energy and carbon management that are relevant to each of its owned and/or managed operations and facilities.

Technical Standard – Energy and Carbon Management

- b) Arrangements shall be established to ensure compliance with all such requirements, and to surpass them where practicable.
- c) All applicable international conventions shall be identified and complied with in all jurisdictions in which each Vedanta Company operates.
- d) Vedanta shall consider opportunities to reduce and offset GHG emissions beyond the scope of legal compliance and the requirements of international standards.

4.2.4. Research, Innovation and Investment

- a) Each Vedanta Company shall develop and maintain its awareness and knowledge of innovatory techniques and research opportunities that may give rise to GHG emissions reduction opportunities within the ECMPs for which it has responsibility. An annual statement shall be produced showing how the Vedanta Company is considering these techniques and opportunities across its existing operations.
- b) Each Vedanta Company shall work with its value chain to help it to reduce energy consumption and carbon intensity across its operations. An annual statement shall be produced showing what activities of this kind the Vedanta Company is undertaking and the outcomes arising.
- c) Each Vedanta Company shall produce an annual statement showing the investments that have taken place during that year in energy and carbon management techniques, measures and opportunities at existing operations, and the anticipated benefits and outcomes arising.

4.2.5. Measuring and Monitoring

- a) Using the GRI Mining and Metals Sector Supplement each Vedanta Company shall monitor performance in managing energy and carbon emissions.
- b) Each Vedanta Company shall develop performance indicators on the basis of corporate and legal requirements and using the following GRI Mining and Metals Performance Indicators:
 - EN3 – Direct energy consumption by primary energy source;
 - EN4 – Indirect energy consumption by primary source;
 - EN5 – Energy saved due to conservation and efficiency improvements;
 - EN6 – Initiatives to provide energy-efficient or renewable energy-based products and services, and reductions in energy requirements as a result of these initiatives;
 - EN7 – Initiatives to reduce indirect energy consumption and reductions achieved;
 - EN16 – Total direct and indirect greenhouse gas emissions by weight;
 - EN17 – Other relevant indirect greenhouse gas emissions by weight; and

Technical Standard – Energy and Carbon Management

- EN18 – Initiatives to reduce greenhouse gas emissions and reductions achieved.
- c) Each Vedanta Company operation or facility shall also establish arrangements for monitoring its performance against the relevant indicators established by the Company.

4.2.6. Knowledge, Awareness and Communication

- a) Arrangements shall be implemented to support energy technology and process research, resource efficiency techniques, and innovatory institutional initiatives carried out by local, regional and national research groups in order to further knowledge and understanding of such attributes in Vedanta's areas of operation.
- b) Mechanisms shall be created and implemented to provide information and raise awareness among employees, customers and suppliers and other stakeholders to enhance knowledge and understanding of energy and carbon management issues.
- c) Arrangements shall be established for the regular reporting to stakeholders on the Company's management of energy and carbon and the progress towards targets and under Performance Indicators.
- d) Vedanta Companies shall work closely with policy-makers to encourage effective and equitable energy and carbon policies within their sectors of operation.

4.3. New Projects

4.3.1. Relevant Considerations

- a) Vedanta Companies shall undertake all elements of energy and carbon management described under 'Existing Projects and Operations' for new projects that are developed in the future (described under headings 4.2.1 to 4.2.7 above). These elements shall address energy and carbon issues in project design, construction and commissioning as well as operation and closure.

4.3.2. Impact Assessment

- a) For any new project or operation that is planned, an initial pre-design assessment of the energy and carbon emissions implications shall also be undertaken. Where necessary, such an assessment will be included or appended as part of a formal international standard Environmental and Social Impact Assessment (ESIA). Reference shall be made to the provisions of local legislative requirements and to the IFC Performance Standard PS1 on the Assessment and Management of Social and Environmental Risks and Impacts.
- b) For projects that require an ESIA the *Technical Standard on Conducting ESIA to International Standards* shall be followed.

Technical Standard – Energy and Carbon Management

- c) For projects that do not fall within the scope of an ESIA an assessment of energy and carbon emissions shall still be undertaken.
- d) The initial assessment of GHG emissions implications for new sites and operations shall be used to determine the scope for designing in and implementing extended measures and approaches for carbon and energy reduction and efficiency that may not be applicable within previously existing sites and operations. Extended measures and approaches shall be considered in the light of the Vedanta Company's Performance Indicators and appropriate targets for energy and carbon reduction.

4.4. Group-Wide Reporting

- a) The Vedanta Group shall report its energy and carbon emissions using internationally recognised methodologies in its annual Sustainable Development Report and via international forums such as the Carbon Disclosure Project.

4.4.1. Energy and Carbon Emissions Performance

- a) The annual energy and carbon assessment and the associated ECMP for each operation and site within Vedanta Companies shall be calculated and maintained by each Company location. Each Vedanta Company shall draw together and amalgamate annual GHG emissions to develop a company-wide carbon footprint.
- b) The carbon footprint shall be reviewed on an annual basis and updated as required and reported to the Vedanta Group head office.
- c) Each Company shall collate the annual GHG emissions arising from all its facilities and use these to determine Company-level performance goals and emissions reduction targets for the forthcoming year.
- d) The GHG emissions collated by each Company shall be submitted to the Group Sustainability Committee for the purposes of the annual Group management review, performance reporting and continual improvement in accordance with the Technical Standards for *Sustainability Data Management*, and *Management Review and Continual Performance*.

4.4.2. Group-Wide Guidance for Vedanta Companies

- a) Vedanta Group shall provide guidance to Vedanta Companies on the approaches to be taken to the development and management of energy and carbon assessments. This guidance shall take account of internationally recognised methodologies such as those developed by the WBCSD / WRI.

Technical Standard – Energy and Carbon Management

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be periodically assessed, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- An energy and carbon assessment is prepared annually by each site and is reported to the Company Head Office.
- An energy and carbon management plan (ECMP) exists for each site and that its provisions are being put into practice
- A carbon footprint is prepared annually by each Company and reported to the Group Sustainability Committee to enable it to fulfil its duties for data reporting and continual improvement.
- Statements of Company actions relating to research, innovation, and investment in energy and low carbon are prepared annually.
- Evidence is available to demonstrate the actions and initiatives taken to monitor and reduce energy and carbon emissions.
- Information and awareness-raising activities have been undertaken among employees, customers and suppliers and other stakeholders to enhance knowledge and understanding of energy and carbon management issues.

Technical Standard – Energy and Carbon Management

7. SUPPORTING INFORMATION

Reference	Description
Greenhouse Gas Emissions Accounting and Reporting Methodologies	<p>Internationally-recognised sources such as the World Business Council for Sustainable Development (WBCSD) / World Resources Institute (WRI). Greenhouse Gas (GHG) Protocol Initiative:</p> <p><i>“A Corporate Accounting and Reporting Standard, Revised Edition (WBCSD and WRI 2004)</i> http://www.wbcsd.org/pages/EDocument/EDocumentDetails.aspx?ID=13590&NoSearchContextKey=true</p> <p><i>“The GHG Protocol for Project Accounting (WBCSD and WRI, 2005)</i> http://www.wbcsd.org/includes/getTarget.asp?type=d&id=MTc1MDk</p> <p>ISO 14064 on GHGs, parts 1, 2 and 3 http://www.iso.org/iso/iso_catalogue.htm</p> <p>Sector-specific guidance on GHG emissions accounting will also be relevant to some of Vedanta’s businesses, notably the aluminium sector GHG protocol: http://www.world-aluminium.org/cache/fl0000127.pdf</p>
The Office of the Compliance Advisor/Ombudsman (CAO)	<p>An independent post that reports directly to the President of the World Bank Group. The CAO reviews complaints from communities affected by development projects undertaken by the private sector lending and insurance members of the World Bank Group, the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA). The CAO works to respond to complaints through mediated settlements or through compliance audits that ensure adherence with relevant policies. The CAO also offers advice and guidance to IFC and MIGA, and to the World Bank Group President, about improving the social and environmental outcomes of IFC and MIGA projects.</p>

Technical Standard – Energy and Carbon Management

Reference	Description
Global Reporting Initiative (GRI)	<p>The Global Reporting Initiative (GRI) is a network-based organization that produced an internationally applicable sustainability reporting and disclosure framework. The GRI periodically updates the framework and also provides sector-specific guidance on its application to environmental, social and governance performance.</p> <p>http://www.globalreporting.org/Home</p>
ICMM (International Council of Mining and Metals)	<p>The ICMM has produced and published a good practice guidance document 'Policy on Climate Change' that contains useful guidance and references to cultural heritage. The ICMM has also produced many other best practice documents on a range of health, safety, environment and community issues relating to mining.</p> <p>http://www.icmm.com/library</p>
IFC Performance Standards Guidance Notes	<p>Provides detailed guidance for adopting and implementing the requirements of the different Performance Standards.</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards</p>

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 10	Energy and Carbon Policy

Technical Standard – Energy and Carbon Management

Doc. Ref.	Document name
TS 08	Conducting ESIA to International Standards Technical Standard
TS 21	Sustainability Data Management
MS 14	Management Review and Continual Performance

Technical Standard – Site Closure

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Site Closure

Technical Standard – Site Closure

Standard Title:	Site Closure	Date of Revision	06/04/2012
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Document Issue and Revision History		
DATE	REVISION NUMBER	CHANGE SUMMARY
06/04/2012	v.1	Initial issue.

Authorised by:	Tony Henshaw
Signature	
Position:	Chief Sustainability Officer

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Technical Standard – Site Closure

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Closure planning	7
4.3. Developing the closure plan	8
4.4. Financing site closure	9
4.5. Communicating the closure plan	10
4.6. Maintaining the closure plan	10
4.7. Decommissioning and closure implementation	10
4.8. Post-closure considerations	11
5. ROLES AND RESPONSIBILITIES	12
6. COMPLIANCE AND PERFORMANCE	12
7. SUPPORTING INFORMATION	13
8. REVIEW	13
9. RELATED DOCUMENTATION	13

Technical Standard – Site Closure

1. INTRODUCTION

The purpose of this Technical Standard is for Vedanta to develop systems and processes which ensure operations consider sustainability issues before, during and after site closure. Site closure plans shall be developed as early as feasibly possible, ideally in the early development phase of a new site, to identify, minimise or mitigate and manage risks (environmental, socio-economic, reputational and health and safety) associated with site closure. Plans should be agreed with regulatory authorities prior to commencement of operations. Sites shall be left in a condition which minimises adverse impacts on the human and natural environment, and leaves behind a positive legacy that contributes to sustainable development.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Closure plan	A document that addresses mine closure planning and includes specific activities, roles and responsibilities, closure criteria and options, timeframes and resource requirements, including aftercare (post completion of closure work).
Competent Person	An individual who has the necessary and sufficient knowledge, skills and experience, as well as the necessary experience to complete their responsibilities safely, effectively and consistently.
Decommissioning	The shut-down and dismantling of a facility, including removal of equipment, buildings and other structures.
Environmental and Social Management System	The structured framework that provides the arrangements for managing the environmental, health, safety and social aspects through the lifetime of the project.
ESIA	Environmental Social Impact Assessment – a formalised process designed to identify, assess and document environmental and social impacts associated with a project, along with the mitigation measures and management arrangements for ensuring such measures are implemented.
Financial provision	Funds held separately from operational funds and reserved to ensure successful implementation of the site closure plan. They should be held within an appropriate financing mechanism, such as a trust fund or bank guarantees, where appropriate and where prior approval of funds by regulators is not required.

Technical Standard – Site Closure

Term	Definition
Grievance	A concern or complaint raised by any stakeholder either affected by or interested in company operations. Both concerns and complaints can result from either real or perceived impacts of a company's operations.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies, as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Management of change	A systematic process to deal with changes that could impact sustainability risks. Changes can include, but are not limited to, personnel and other resources, plant, equipment, documents, legislation, systems and processes etc. In the context of this Standard, management of change is any change not considered to be a new project.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices, and research and development facilities.
Site closure	The decommissioning, rehabilitation and on-going monitoring associated with an operation after its operational life has ended.
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and international third parties.
Stakeholder Engagement	<p>An umbrella term encompassing a range of activities and interactions between Vedanta and its stakeholders over the life of a project that are designated to promote transparent, accountable, positive, and mutually-beneficial working relationships.</p> <p>Stakeholder engagement includes stakeholder identification and analysis, information disclosure, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.</p>

Technical Standard – Site Closure

Term	Definition
Sustainability issues	These are issues that Vedanta and its operations are required to manage on an on-going basis and which are part of the Vedanta sustainability model (responsible stewardship, stakeholder engagement and adding value). Issues include, but are not limited to, health, safety, environmental and social risk management, community relations, human rights, biodiversity, water management, HIV/Aids, product stewardship, stakeholder engagement, suppliers and contractor management etc.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Vulnerable Groups	Individuals or groups within the project area of influence who could experience adverse impacts more severely than others based on their vulnerable or disadvantaged status. This vulnerability may be due to an individual's or group's race, sex, language, religion, political, or other opinion, national or social origin, property, birth or other status. In addition other factors should be considered such as gender, ethnicity, culture, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources.

4. PROGRAMME REQUIREMENTS

All Vedanta subsidiary companies and operations are required to follow the requirements listed below with regards the mechanisms for decommissioning and site closure. All Vedanta subsidiary companies and operations are also required to ensure the mechanisms for undertaking decommissioning and site closure meet the requirements of international standards (e.g. IFC development/performance standards, IFC EHS Guidelines and ICMM principles) and impact assessment and consultation processes where these apply.

4.1. General Requirements

- a) Meet Vedanta Group sustainability policies and standards.
- b) Manage all their operations throughout their full lifecycle in a manner that ensures the optimisation of post closure outcomes across the environmental, social and economic needs of sustainable development.
- c) Protect and enhance the reputation of Vedanta as a responsible company and preserve shareholder value
- d) Comply with relevant regulatory requirements
- e) Identify and mitigate environmental and socio-economic impacts
- f) Protect the health, safety and welfare of employees and the general public

Technical Standard – Site Closure

- g) Return sites to a state comparable to conditions before operations commenced or otherwise to a state acceptable to society.
- h) Where possible promote a sustainable use for the site after closure, which leaves a positive legacy for both the local communities and the environment. This should be determined through comprehensive multi-stakeholder engagement.
- i) Where possible operations should implement progressive closure to demonstrate the approach being adopted. This has the benefit of availing of the skill sets available during the operational phase and to ensuring that the site risk is as low as possible prior to closure.

The Site Closure technical standard shall also meet the requirements of the *IFC Performance Standards and EHS guidelines*. These requirements are summarised as follows:

- *IFC Environmental, Health, and Safety Guidelines for Mining*. A Mine Reclamation and Closure Plan should be drafted prior to the start of operations, which should incorporate both physical rehabilitation and socio-economic considerations through the project lifecycle. The closure plan should promote a beneficial future land use and include appropriate after-care and monitoring. The closure plan for the site should be regularly updated and refined to reflect changes in conditions and circumstances. Funding should be made available to cover closure costs, including a provision for early or temporary closure, and it should be kept either by a cash accrual system or a financial guarantee. The site must be left in a stable state, with appropriate steps taken to ensure the physical, chemical and ecological integrity of the site.
- *General EHS Guidelines: Construction and Decommissioning*. Environmental impacts arising from decommissioning activities include those relating to noise and vibration, soil erosion, air quality, solid wastes, hazardous materials, wastewater discharges and contaminated land. Occupational Health and Safety considerations include over-exertion, slips and falls, working from heights, being struck by objects, moving machinery, dust and confined spaces and excavations. Community health and safety considerations include general site hazards, disease prevention and traffic safety.

The International Council on Mining and Metals (ICMM) also provides some useful guidance:

- *Planning for Integrated Mine Closure: Toolkit*. This document provides a toolkit intended to promote a more disciplined approach to closure planning, and to increase the uniformity of good practice across the sector. It consists of 13 separate tools covering different areas of the mine closure process, along with detailed guidance, and can act as a useful reference to mine closure activities.
- *Guidance Paper: Financial Assurance for Mine Closure and Reclamation*. This guidance paper sets out the increasing requirements for the financing of mine closure to be provided and guaranteed up front at the development stage. It provides guidance on how to establish financial resources for mine closure effectively, and the types of financial mechanisms through which this can be delivered.

4.2. Closure planning

Proactive closure planning and implementation is critical to minimise the need for major modifications near to closure and any post-closure liabilities that might otherwise arise.

Technical Standard – Site Closure

- a) Operations shall ensure that closure and post-closure activities are considered as early as possible in the planning and design stages, and before operational activities begin, so that sites are designed, constructed and operated with closure in mind.
- b) This process shall be underpinned by the development and maintenance of a closure plan specific to each site, a standalone document which should consist of, as a minimum, the following:
 - The closure planning steps and activities required.
 - Assignment of roles and responsibilities for each action.
 - Schedules and timeframes for each action.
 - Resources required and where these will come from.
 - List of 'success criteria' which will be used to demonstrate to stakeholders that the closure plan has been successful.
 - Communication plan for internal and external stakeholders.
- c) Operations must engage with regulators to ensure that there is agreement on the detail of the plan and that there is a mechanism for the operation to 'walk away' from the site following the successful implementation of the plan.
- d) In the case of an acquisition of an existing operation, the closure plan for the site shall be reviewed and updated as soon after the acquisition as possible and shall meet the requirements of the Vedanta Management Standard MS08 *Acquisitions, Divestment and Joint Ventures Due Diligence*.
- e) The operations shall consider fully the socio-economic impacts and make detailed plans to address them, including transitional plans and hand over strategies for company towns, infrastructure projects and social services developed from the operations, and minimising the impacts of job losses directly from the site and indirectly through ancillary services that have built up around the site.

4.3. Developing the closure plan

- a) The closure plan shall be developed based on the following:
 - A detailed knowledge base of the operating environment, including socio-economic, cultural and environmental information, as well as legal and regulatory requirements for closure.
 - An evaluation of alternative closure options against selection criteria (including environmental, reputational risk, socio-economic, community), with documentation of why the preferred option was selected.
 - An assessment of the key threats and opportunities of the preferred closure option, together with any uncertainties and the additional work required to resolve them.

Technical Standard – Site Closure

- The key risks associated with specific aspects of closure must be identified (e.g. the risk of acid mine drainage etc.). Site specific solutions must be developed to address these risks.
 - A comprehensive consultation process with both internal and external stakeholders and a detailed assessment made to ensure all relevant stakeholders have been identified and plans developed to address stakeholder needs, aspirations and concerns.
- b) The closure plan shall include objectives and targets for the closure which reflect corporate, regulatory and stakeholder requirements, and should be developed in line with the Vedanta Management Standard MS05 *Objectives, Targets and Performance Improvement*.
 - c) Contingency plans shall be made for premature closure of the site, where the site is closed in advance of the scheduled life of its operation due to unforeseen circumstances (such as a change in economic conditions).
 - d) The closure plan shall comply with all legal and regulatory requirements that apply to the business or site, along with sustainability-related international standards and any other requirements to which Vedanta subscribes.
 - e) The closure plan shall be designed by a multi-disciplinary team of competent persons, and approved by persons with appropriate seniority.
 - f) Training shall be provided where sufficient skills and experience are not available, and external consultants can be used where required.

4.4. Financing site closure

- a) A financial provision for closure costs shall be maintained that is sufficient to ensure the successful implementation of the closure plan, whether under a planned or premature closure.
- b) The provision shall cover the best estimates of all post closure costs, whether one-off or ongoing.
- c) It shall be held separately from operational funds, via an appropriate method. The *IFC EHS Guidelines for Mining* states that funding should be provided by either a cash accrual system (fully funded escrow accounts or sinking funds) or a financial guarantee provided by a reputable financial institution. The ICMM guidance paper *Financial Assurance for Mine Closure and Reclamation* reviews a number of different funding options, including third-party guarantee, cash deposit, letter of credit, trust fund and insurance policy.
- d) The provision shall be determined using best and most recent estimates of expected costs, and shall be fully auditable.
- e) The provision shall be reviewed on an annual basis, and updated in line with changes to the closure plan, so that the accuracy of the provision increases as the closure date approaches and the closure plan becomes more detailed.
- f) A financial contingency shall be provided to reflect any uncertainties existing within the current closure plan.

Technical Standard – Site Closure

4.5. Communicating the closure plan

- a) The site closure plan shall be communicated to all relevant stakeholders and authorities in a timely, consistent and transparent manner, and used in stakeholder engagement activities where appropriate.
- b) Agreement shall be reached with the relevant government agencies to ensure their approval of the preferred closure plan.
- c) Employees shall be consulted throughout the process, made clearly aware of the closure plans, and kept informed of any updates or amendments to the closure plan and timeframes.
- d) Engagement with local communities in closure plan development to ensure that:
 - The expectations of local communities are understood and managed effectively.
 - The dependency of local communities on the operation is managed and reduced through the life cycle of the operation.
 - Communities are made aware of any residual impacts that will arise from decommissioning and post closure.
 - Consider the possibility, where appropriate, to offer communities a role in the management of the aftercare of parts of the site, which can be of value.

4.6. Maintaining the closure plan

- a) The closure plan and associated financial cost estimating shall be refined and updated on a regular basis, to meet changing circumstances in mine development and operational planning, changes to the environmental and social conditions, changing stakeholder expectations, and to take account of new techniques / technologies made available.
- b) Reviews shall be carried out by a multidisciplinary team with appropriate skills and experience, and include input from key stakeholders.
- c) Responsibility for the ongoing management of the closure plan must be clearly allocated, and it must cover all aspects of the closure process.
- d) The closure plan shall become more detailed as the date for site closure draws nearer, with increasingly accurate scoping of all work required, and a fully detailed and costed closure plan shall be put in place at least five years prior to closure.

4.7. Decommissioning and closure implementation

- a) Closure activities should be implemented in line with the final closure plan, ensuring that all closure objectives and targets are met.
- b) Each Vedanta Company must ensure that adequate resources are made available to meet the objectives and targets within the agreed timeframe, including:
 - Personnel resources

Technical Standard – Site Closure

- Technical resources
- Financial resources
- c) Responsibility for the implementation of each part of the closure plan shall be clearly assigned, establishing a clear line of accountability and authority.
- d) Progress against the closure plan shall be communicated to all internal stakeholders and relevant external stakeholders on a regular and transparent basis.
- e) The health and safety and welfare of employees and contractors shall be considered and any risks addressed. In addition to addressing risks that arise directly from carrying out the site closure activities, consideration must also be given to the risk of the site's health and safety procedures becoming less robust during the period that the operations unwind, and any necessary actions taken to mitigate this risk.
- f) All staff involved in implementing the closure plan shall be provided with the training necessary to carry out their activities effectively and safely.
- g) Decommissioning and closure shall comply with all legal and regulatory requirements that apply to the business or site, along with sustainability-related international standards and any other requirements to which Vedanta subscribes.
- h) The implementation of the closure plan shall be monitored closely to ensure that it is progressing effectively and in line with the overall plan, and that the objectives and targets for successful closure are being met.

4.8. Post-closure considerations

- a) Every effort shall be made to return the site to a state comparable to conditions before operations commenced or otherwise to a state acceptable to society.
- b) A positive and lasting legacy should be sought from the site after closure, with the promotion of a sustainable use for the land that will benefit both local communities and the surrounding environment.
- c) Community involvement and ownership of the post operational outcomes shall be promoted.
- d) Future public health and safety shall be considered, and any potential risks addressed, e.g. unguarded shafts and other openings permanently blocked to the public, drains and diversion ditches maintained after closure, and ongoing protection of drinking water supplies from chemical leaching.
- e) Adequate support and training shall be provided to staff, and every effort made to assist in finding them alternative employment.
- f) Post-closure activities shall comply with all legal and regulatory requirements that apply to the business or site, along with sustainability-related international standards and any other requirements to which Vedanta subscribes.
- g) Post closure activities, after decommissioning, demolition and rehabilitation has been completed, shall include a period of monitoring, care and maintenance. The duration of

Technical Standard – Site Closure

post-closure monitoring should be defined on a risk-based approach, although the *IFC Environmental, Health, and Safety Guidelines for Mining* suggests that a minimum of five years after closure is usually required.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure it complies with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group.

The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- Closure and post-closure activities are considered as early as possible in the planning and design stages for each site.
- Each site within the Group has developed and is maintaining a site specific closure plan.
- A financial provision for closure costs has been established and is being reviewed on a regular basis.
- The closure plan has been communicated to all relevant stakeholders and authorities in a timely, consistent and transparent manner.
- The closure plan is being reviewed and updated on a frequency that is appropriate for the nature of the operation (previously defined), and responsibility for the ongoing management of the closure plan shall be clearly allocated.
- For closing sites, that closure activities are being implemented in line with the final closure plan, ensuring that all objectives and targets for successful site closure are being met.
- Every effort is being made to return the site to a state comparable to conditions before operations commenced or otherwise to a state acceptable to society.
- A positive and lasting legacy is being sought for the site after closure, with the promotion of a sustainable use for the land that will benefit both local communities and the surrounding environment.
- Post closure monitoring, care and maintenance activities have been clearly set and as appropriate being undertaken in line with the defined plans.

Technical Standard – Site Closure

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	<p>The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining.</p> <p>http://www.icmm.com/library</p> <p>Of particular relevance are the following two guides:</p> <p>http://www.icmm.com/page/1232/guidance-paper-financial-assurance-for-mine-closure-and-reclamation</p> <p>http://www.icmm.com/page/9568/planning-for-integrated-mine-closure-toolkit</p>
International Finance Corporation EHS Guidelines	<p>The <i>IFC Environmental, Health, and Safety Guidelines for Mining</i> provide useful information on site closure:</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/gui_EHSGuidelines2007_Mining/\$FILE/Final+-+Mining.pdf</p> <p>The <i>General EHS Guidelines: Construction and Decommissioning</i> also provide some more general information:</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/AttachmentsByTitle/gui_EHSGuidelines2007_GeneralEHS_4/\$FILE/4+Construction+and+Decommissioning.pdf</p>

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
MS 03	New Projects, Planning Processes and Site Closure
MS 05	Objectives, Targets and Performance Improvement

Technical Standard – Site Closure

Doc. Ref.	Document name
MS 07	Management of Change
MS 08	Acquisitions, Divestment and Joint Venture Due Diligence
TS 05	Stakeholder Engagement

Technical Standard – Transport and Logistics Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Transport and Logistics Management

Technical Standard – Transport and Logistics Management

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Technical Standard – Transport and Logistics Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	6
4.1. General Requirements	6
4.2. Transport and Logistics Hazard Identification and Risk Assessment	6
4.3. Transport and Logistics Management Plan	7
4.4. Traffic Routes and Roadways	8
4.5. Parking Areas	9
4.6. Pedestrian Safety	9
4.7. Vehicle Safety	10
4.8. Driver Safety and Other People	10
4.9. Transport & Logistics Incident Procedures	12
4.10. Transport and Logistics Audit	13
5. ROLES AND RESPONSIBILITIES	14
6. COMPLIANCE AND PERFORMANCE	14
7. SUPPORTING INFORMATION	14
8. REVIEW	15
9. RELATED DOCUMENTATION	15

Technical Standard – Transport and Logistics Management

1. INTRODUCTION

The purpose of this Technical Standard is to ensure that Vedanta operations implement a consistent framework for assessing and controlling risks associated with transport and logistics activities to ensure the health and safety of Vedanta employees and others. This Technical Standard also supports our policies in relation to sustainability and protection of the environment. This Standard supports Vedanta’s *Health, Safety and Environmental Policy* and *Social Policy*.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure). The standard covers light vehicles and surface mobile surface equipment owned or hired or leased by Vedanta and excludes rail, underground vehicles and equipment and airfreight.

3. DEFINITIONS

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

Term	Definition
Affected Communities	Local communities directly affected by the new or existing project.
ALARP (As Low as Reasonably Practicable)	Consideration of the risk against the benefits or non-benefits that are needed to implement measures/controls to avoid the risk – where the cost (not just financial) of implementation of the measures is disproportionate to the benefits, it is not consider to be reasonably practicable.
Competent Person	An individual who has the necessary and sufficient knowledge, skills and experience, as well as the necessary experience to complete their responsibilities safely, effectively and consistently.
Contractor	Any third party organisation which is engaged or commissioned by Vedanta to undertake work or provide services.
Contractor employee	An employee of a contracted company engaged or commissioned by Vedanta to undertake work or provide services, but who are not directly employed by Vedanta. For example, contractor employees working on Vedanta operations, persons working for Vedanta through staff/employment agencies, contract cleaners etc.
Environmental and Social Management System	The structured framework that provides the arrangements for managing the environmental, health, safety and social aspects through the lifetime of the project.
Environmental Social Impact Assessment (ESIA)	A formalised process designed to identify, assess and document environmental and social impacts associated with a project, along with the mitigation measures and management arrangements for ensuring such measures are implemented.

Technical Standard – Transport and Logistics Management

Term	Definition
Hazard	An object, property or an activity that can cause adverse effects e.g. a high voltage electricity supply or a toxic chemical may present a hazard, meaning that they present the potential for harm.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies, as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Light Vehicle	Light vehicles can be registered for use on public roads and has four or more wheels, seats a maximum of 12 people (including the driver) and does not exceed 4.5 tonnes Gross Vehicle Mass (GVM), as specified by the manufacturer or an approved automotive engineer if the vehicle has been modified. They may be Vedanta owned or leased vehicles, hire vehicles, contractor or supplier vehicles and private vehicles used for work related activity. Examples of light vehicles covered by this standard are passenger cars, four wheel drives, sports utility vehicles (SUVs), pick ups (utilities, bakkies), mini buses, vans and others).
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices, and research and development facilities.
Risk	The effect of uncertainty on objectives (as defined by the ISO 31001 Standard). Uncertainties include events (which may or not happen) and uncertainties caused by a lack of information or ambiguity.
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and interested third parties.
Stakeholder Engagement	An umbrella term encompassing a range of activities and interactions between Vedanta and its stakeholders over the life of a project that are designated to promote transparent, accountable, positive, and mutually-beneficial working relationships. Stakeholder engagement includes stakeholder identification and analysis, information disclosure, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring,

Technical Standard – Transport and Logistics Management

Term	Definition
	regular reporting forums and procedures, and other related management activities.
Surface Mobile Vehicles	Surface mobile vehicles include equipment such as rear dumps, belly dumps, water trucks, grazers, dozers, loaders and tankers. It does not include draglines, shovels, excavators, forklift trucks, mobile cranes, backhoes, bob-cats and other trucks larger than light vehicles.
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)

4. PROGRAMME REQUIREMENTS

This Standard aims to define the minimum requirements for processes that need to be established to manage health, safety, social and sustainability risks associated with transport and logistics activities. The requirements described below shall be followed by all Vedanta subsidiary companies and operations with regards to the management of transport and logistics.

4.1. General Requirements

- a) Vedanta Group and operations shall ensure that the requirements of this Technical Standard are adhered to as part of their operations to ensure that environmental, social, safety and health risks are systematically considered in the effective management of transport and logistics risks.
- b) Transport and logistics management shall also meet the requirements of the *IFC Performance Standards*. These requirements are summarised as follows:
 - Performance Standard 4 – Community Health, Safety and Security. Vedanta will ensure that the safeguarding of personnel and property is carried out consistently with relevant human rights principles and in a manner that avoids or minimizes risks to the Affected Communities. Security will be provided in a manner that does not jeopardize the community's safety and security, or the Vedanta's relationship with the community and it will be consistent with national requirements, including national laws implementing host country obligations under international law, and the requirements of Performance Standard 4 which are consistent with good international practice.

4.2. Transport and Logistics Hazard Identification and Risk Assessment

- a) Operations shall develop, implement and maintain procedures for carrying out transport and logistics hazard identification and risk assessments to identify risks associated with its activities and to manage the risks to a level which is as low as reasonably practicable through appropriate control measures.
- b) The transport and logistics hazard identification and risk assessment process shall be applied over the entire life cycle of the transport and logistics activities within the operation, including at the design and procurement stage and during decommissioning.

Technical Standard – Transport and Logistics Management

- c) The key transport and logistics considerations that shall be included in the risk assessment include, but are not limited to:
- The workplace, such as layout suitability and safety features of the route for vehicles and interaction with pedestrians;
 - The vehicle, including suitability for the work they do and their maintenance;
 - Drivers and other people; to ensure drivers are able to work safely and responsibly and there is suitable management control and supervision for drivers and other people;
 - Vehicle activities including reversing; parking, loading and unloading.
- d) Following the hazard identification and risk assessment, the assessed risks shall be eliminated as a first priority, or controlled to a level which is as low as reasonably practicable, by implementation of risk reduction and control measures.
- e) The hazard identification and risk assessment process and the risk reduction/control measures in place must be recorded to demonstrate that:
- All foreseeable hazards associated with transport and logistics have been identified;
 - The likelihood and consequences of unwanted events have been assessed;
 - Controls to reduce risks are in place (refer to (d) above); and
 - Emergency response procedures for incidents involving transport and logistics activities are in place.
- f) Transportation and logistics hazard identification and risk assessments shall be undertaken prior to activities commencing and reviewed when there is a change which warrants review of the risk assessment (e.g. relating to layout, change to operations, traffic movements or road systems, and after emergencies and audits where required).
- g) Operations shall ensure transport and logistics control measures are supported by training and competency processes and the visible demonstration of commitment by management and on-site supervisors, as well as by the understanding and ownership of the measures by employees.
- h) All operations must clearly document and implement a night driving policy as a result of the transport and logistics risk assessment.

4.3. Transport and Logistics Management Plan

- a) Operations shall develop, implement and maintain a management plan to outline the arrangements for organising transport and logistics activities at its operations, in accordance with the outputs from the transport and logistics risk assessment.
- b) The transport and logistics management plan shall define and describe the arrangements for the implementation of Requirements 4.4 to 4.10 of this Standard (as applicable to the operation).

Technical Standard – Transport and Logistics Management

4.4. Traffic Routes and Roadways

- a) Operations shall ensure that traffic routes are established which ensure the segregation of pedestrians, light vehicles and heavy vehicles/mobile equipment.
- b) Operations shall define right of way rules, including overtaking restrictions.
- c) Roadways shall be suitably designed and constructed and line markings shall be provided on sealed roads as far as is reasonably practicable.
- d) Operations shall ensure that appropriate traffic signage is provided and that it conforms to local and national standards and legislation and, is consistent throughout the operation, is placed at height at which can be easily observed and is firmly secured in place. Signage provided shall be suitable for low light and night time situations.
- e) Operations shall ensure that adequate protection, such as protection bollards or barriers are provided to prevent damage to infrastructure (e.g. open drains, where the cover may not support the vehicle); and where necessary to protect pedestrians. These devices must be highly visible to drivers of vehicles and warning signs shall be in place where necessary (i.e. where there is a risk they might not be seen and could present an additional hazard).
- f) Access control shall be in place in areas identified as hazardous and having significant associated risk (e.g. high voltage installations, power lines etc) to prevent vehicles accessing hazardous areas.
- g) Speed limits shall be established which are suitable for the prevailing road conditions and pedestrian hazards at the operation. Speed limits signage shall be in place.
- h) Speed bumps shall be constructed and in place to control excessive vehicle speeds.
- i) Processes shall be in place to ensure driver visibility is maintained and nuisance dust is minimised by managing and suppressing dust on operational roads. Consideration shall be given to hazards of extreme wet weather and overwatering.
- j) Procedures shall be implemented to ensure that vehicles and surface mobile equipment shall only be operated on sufficiently stable surfaces and gradients that are suitable for safe operation.
- k) Operations shall ensure that roadways are maintained in a safe condition.
- l) A maintenance programme shall be established for the roadside vegetation such that trees or vegetation growth that could pose a visibility hazard shall be suitably trimmed or removed.
- m) A programme shall be established for the inspection, maintenance and cleaning of traffic signage and delineators such as lines, and barriers.

Technical Standard – Transport and Logistics Management

4.5. Parking Areas

- a) Operations shall provide adequate sized designated parking areas for all private vehicles, and visitor's vehicles entering the operations and shall also ensure sufficient parking spaces are provided for all other non-operational vehicles. This shall include provision of disabled parking facilities and suitable and safe bus pick up and drop off points where appropriate.
- b) Designated parking areas shall be provided for all operational heavy vehicles and light vehicles including around maintenance areas.
- c) Parking areas shall be designed such that traffic flows and routes are defined including entry and exit points, vehicle parking bays are of a suitable width and construction; pedestrians are segregated from vehicles; and elimination of the need for reverse parking where possible.
- d) Parking standards shall be in place to include requirements for immobilisation of surface vehicles to prevent uncontrolled vehicle movements (wheel stops, bumps etc).

4.6. Pedestrian Safety

- a) Each operation shall ensure the hazard and risk assessments include a site based review of pedestrian vehicle interaction, including road design and layout, (entry exit points, intersections etc).
- b) Pedestrians shall be segregated from vehicles and mobile equipment. Systems shall be in place to control movements of vehicles and mobile equipment in areas accessible to pedestrians, into and out of workshops and for controls on pedestrian and light vehicle movements around mobile equipment.
- c) Clear instructions shall be established for pedestrians and right of way rules;
- d) Systems to alert mobile operators of pedestrian presence shall be implemented
- e) Pedestrian walkways shall be provided in all areas where vehicles and mobile equipment is used; walkways shall be located at a safe distance from the roadways, be a suitable width and be constructed of a suitable surface to avoid slips and trips.
- f) Barriers shall be provided on pedestrian walkways where they are located beside roadways or where there is a high pedestrian flow.
- g) Designated and suitably designed pedestrian crossings shall be provided at strategic locations and crossing warning signs shall be in place.
- h) Operations shall ensure high visibility clothing is provided to pedestrians who work or pass through operational areas involving vehicle movement.
- i) Adequate protection and controls shall be provided where pedestrians exit buildings.
- j) Visitors shall be informed of relevant requirements for vehicle pedestrian safety upon arrival at the operations.

Technical Standard – Transport and Logistics Management

4.7. Vehicle Safety

- a) Operations shall ensure that vehicle selection and acceptance criteria are established that is based on risk assessment; taking into account the tasks and application of the vehicle (e.g. roll over and crash worthiness ratings). Operations shall define and implement minimum safety specifications of all vehicles they procure.
- b) A formal inspection and preventative/condition based maintenance system shall be in place to ensure that vehicles are maintained in a safe and roadworthy condition and as a minimum serviced in line with the vehicle manufacturers service schedule. Operations shall ensure inspection and maintenance is undertaken on safety critical equipment and components and records kept.
- c) Selection of vehicles and any modification shall be subject to change management processes as outlined in the Vedanta Management Standard MS07 on *Management of Change*.
- d) A pre-use vehicle safety check and familiarisation system shall be implemented. For operational vehicles, log books shall be maintained on the vehicle.
- e) Vehicles loading and unloading procedures shall be in place to avoid material or objects and people falling out of the vehicles, this shall include procedures to ensure vehicles are not overloaded.
- f) Operations shall ensure measures are taken to prevent falls from vehicles or people being hit by an object that is likely to hurt them.
- g) Controls shall be in place to ensure the safety of people working on road-ways, including working on vehicle breakdowns.
- h) The operation shall ensure processes are in place to ensure vehicles and mobile equipment have seat belts and that seat belts are worn by the occupants of all vehicles at all times the engine is running..
- i) Clear communication procedures and interactions shall be established between all vehicles whilst moving about the operation or undertaking activities associated with the operation.
- j) Operations shall ensure that processes are in place to control and manage the transport of hazardous materials. This shall be undertaken in accordance with (i) local laws and regulations, (ii) UN Regulations on the transport of dangerous goods and (iii) the International Maritime Dangerous Goods Code (IMDG Code). Operations shall establish a process for the use of material safety data sheets and placarding when transporting hazardous cargoes.

4.8. Driver Safety and Other People

- a) Operations shall ensure drivers (employees whose main documented duty for the company is driving) are medically fit to drive such that being in charge of a vehicle does not pose a risk to their own health and safety, or that of others. Medical assessments of fitness shall be conducted in accordance with local laws and regulations (if established) and shall at a minimum cover:
 - Eyesight/Vision;
 - Physical mobility (ability to fully control and operate the vehicle);

Technical Standard – Transport and Logistics Management

- Hearing (for warning signs and spoken instructions); and
 - Understanding of instructions and risks associated with duties.
 - Employees who drive on behalf of the company, but whose main documented duties for the company is not driving shall undergo the medical tests required to obtain and retain a valid license in the country in which they are employed.
- b) A system shall be in place to ensure drivers are competent to operate the type of vehicle they are required to drive in its intended environment. This shall include recruitment, including checks on previous experience and qualifications, where appropriate, induction processes and, training by the Vedanta operation (see below). The type and level of training will depend on their previous experience and the type of work that they do. Such training must meet or exceed the requirements of National Law. Appropriate records must be maintained. The operation shall establish an effective process to test that competency and training objectives have been achieved and to assess driver competence.
- c) All employees who drive on business for Vedanta Operations must have a valid national driving license appropriate to the vehicle driven and be knowledgeable of the rules of the road in the country in which they drive. Processes shall be in place to ensure licenses are checked upon recruitment and at regular intervals.
- d) All newly appointed drivers shall attend a driving induction course before being allowed to drive for Vedanta operations. The induction training shall be specific to the job requirement and task.
- e) Refresher training must be provided at regular intervals to ensure good driving habits are maintained, new skills are learned where appropriate and for re-assessment of abilities. The frequency of refresher training shall be defined by the operation, so as to maintain optimum driver HSE performance. but shall occur when:
- f) An aspect of the driver's performance (knowledge, skill or attitude) does not meet current requirements or specifications.
- g) An aspect of the driver's job is about to change (e.g. promotion, new duties, new type of vehicle, new procedures, or a change in layout and environment).
- h) Operations shall provide those that drive a company vehicle on company business with a suitable documented authorisation from the company e.g. internal driving license which specifies the type of vehicles they are permitted to drive. This must only be issued after a driver has completed the requisite training and associated competence assessment test and subject to a satisfactory medical. This information shall be kept on a central register. Employees shall not be permitted to drive without this document. A document for safe driving is not required in the case of use of personal vehicle, driven on company business.
- i) Each driver shall be given appropriate instructions and information for reference that will help him/her undertake his/her duties for safe and efficient driving. The reference material shall be provided in a language appropriate for the driver (typically this may comprise a company specific driver's handbook).
- j) Operations shall never permit any employee to drive whilst under the influence of drugs or alcohol . A fit for work policy shall be in place incorporating defined action levels for drugs and alcohol.

Technical Standard – Transport and Logistics Management

- k) A system shall be in place to manage driver fatigue. This shall include empowerment of drivers who feel tiredness (fatigue) and consider that that this tiredness is or will impair their ability to drive safely, being able to stop the vehicle in a safe location and to take an appropriate period of rest before recommencing the drive; specifications for maximum continuous driving hours in any 8 and 24 hour period and rest breaks and journey planning (See Section below on Journey Planning).
- l) Mobile phones, whether hands free or not shall only be used whilst the vehicle is stationary and in a safe location.
- m) Processes shall be established for drivers and operators of vehicles and mobile equipment during abnormal conditions such as inclement weather (e.g. rain, high winds) and go/no go criteria and stating the responsible person for this decision.
- n) To aid visibility to other road users and pedestrians all vehicles will be driven with headlights on dipped beam at all times of the day or night.
- o) Processes shall be in place to ensure that risks associated with vehicles journeys are managed and controlled by journey management, which shall include but not be limited to:
 - Reducing the exposure of drivers and passengers by avoiding unnecessary journeys.
 - To maximise the efficiency of each journey, reducing fuel consumption and so reducing emissions to the environment.
 - To avoid (preferably) or minimise the effect of all identified hazards likely to be encountered.
 - To be able to recover in a timely manner from any incident.
 - To ensure that drivers are fully aware of journey plans and any hazards.
 - Planning and schedules that take account of human factors.
 - Planning of routes to avoid potential hazards e.g. unsafe areas.

4.9. Transport & Logistics Incident Procedures

- a) Each operation shall have in place procedures for incidents and emergencies involving transport and logistics. The operation shall define what events constitute a transport incident, the required action, roles and responsibilities of those involved (including employees, contractors, emergency services etc), who is to be notified and the escalation process involved, requirements for post incident procedures, which include at a minimum, initial incident report, making the scene safe, treatment of injured parties and vehicle recovery. Typically this shall include:

Technical Standard – Transport and Logistics Management

- Collisions involving fatalities;
 - Road accident;
 - Driver lost in hostile environment;
 - Overtaken vehicle;
 - Vehicle fire / explosion in all likely situations;
 - Loss of load or cargo or incident involving hazardous cargo;
 - Pollution incident (water, air, land).
- b) The provision of medical response shall be included in the procedures, including when driving in remote locations.
- c) Operations shall provide suitable emergency equipment in order to be able to respond effectively to transport and logistic incidents.
- d) Procedures shall be available in local languages and carried on vehicles. A communication system shall be in place, which is effective in all areas in which the vehicle is travelling in case of an emergency.
- e) The plans shall be co-ordinated with the operations emergency preparedness and response plan to ensure that decisions involving regional and corporate crisis management team are detailed along with engagement with the media, community and other stakeholders. See also the requirements of the Vedanta Technical Standard TS13 on *Emergency and Crisis Management*.
- f) Procedures shall be in place to test the incident response plan by scenario drills and other means, at appropriate intervals,
- g) A procedure shall be implemented for investigation of transport and logistics incidents and the requirements for investigation, including identifying areas for improved control measures and implementing such measures. See also the requirements of the Vedanta Management Standard MS11 on *Incident Reporting, Escalation and Investigation*.
- h) Transport and logistics incidents shall be reported by operations in the local reporting system and to Vedanta Group in line with the Incident Reporting and Investigation Management Standard MS11.

4.10. Transport and Logistics Audit

- a) The operation shall define how the transport and logistics management plan and arrangements are audited. This shall include periodicity, audit team, reporting requirements and follow up.
- b) Regular audits shall be undertaken of the transport and logistics management plan and arrangements, to evaluate the effectiveness of arrangements and risk control techniques. Findings from audits shall be actioned and the plan updated as required.

Technical Standard – Transport and Logistics Management

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure it complies with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- Transport and logistics hazard identification and risk assessments undertaken;
- Transport and logistics management plan in place.
- Traffic routes and speed limits established and signposted, and are of suitable construction and maintained.
- Pedestrian vehicle segregation is in place.
- Vehicle procurement processes established with defined minimum safety criteria.
- Vehicles are subject to preventative and reactive maintenance.
- Driver competency and training processes in place.
- Incident procedures in place for transport and logistics incidents.
- Audits of the transport and logistics management plan undertaken.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
International Finance Corporation Performance Standards Guidance Notes	The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions (V2) are available however these

Technical Standard – Transport and Logistics Management

Reference	Description
	<p>have not yet been finalised and formally published.</p> <p>http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards</p>

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 01	Social Policy
POL 06	HSE Policy
MS 02	Stakeholder Materiality and Risk Management
MS 06	Competency, Training and Awareness
MS 07	Management of Change
MS 11	Incident Reporting, Escalation and Investigation
TS 10	Safety Management
TS 13	Emergency and Crisis Management

Technical Standard – Community Investment Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

Community Investment Management

Technical Standard – Community Investment Management

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Technical Standard – Community Investment Management

Contents	page
1. Introduction	4
2. Scope	4
3. Definitions	4
4. Programme requirements	6
4.1 General requirements	6
4.2 Identifying the business case	8
4.3 Understanding the community investment environment	8
4.4 Engage communities	9
4.5 Developing the community investment programme	10
4.6 Implementing and managing the programme	12
4.7 Contract and order placement	13
4.8 Sustainability, investing in capacity building and exit strategy	13
4.9 Monitoring and evaluation of the programme	14
4.10 Reporting and communicating the results	15
4.11 Partnerships, ngo selection and grants	15
5. Roles and responsibilities	15
6. Compliance and performance	15
7. Supporting information	16
8. Review	17
9. Related documentation	17
Appendix A: Contract and order placement	18
Appendix B: Partnerships, ngo selection and grants	21

Technical Standard – Community Investment Management

1. INTRODUCTION

The purpose of this Technical Standard is to provide guidance on how best to establish Community Investment programmes, and ensure they are managed effectively to realise the full benefits to the local communities, broader society and Vedanta itself. Community Investment is an important mechanism for Vedanta Group to support its broader sustainability goals, whereby voluntary contributions are made to benefit the sustainable development of the local communities and broader society in which they operate in order to ensure that stakeholders receive direct benefits from Vedanta’s operations.

2. SCOPE

The guidance in this Technical Standard is mandatory and applies to all Vedanta operations and managed sites. The Standard applies to all new projects and is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
Affected Party	Stakeholders who are affected by the company or operation, both positively and negatively. Within this it is possible to distinguish between those that are directly affected and indirectly affected by the company or operation.
Communication	Dialogue between Vedanta and affected or interested parties. Communication is exchanging (giving and receiving) information. Communication enables Vedanta to convey the aspects, risks and opportunities of their operations, and to receive information from a range of stakeholder’s concerns, questions and suggestions shared in response.
Community profile	A community profile sets out the demographic, socio-political, economic, educational and other relevant characteristics of the area, and should be prepared with the assistance of local consultants if necessary.
Consultation	Consultation is not the same as communication although both are two-way processes. Consultation is purposeful and deliberately seeks input from stakeholders in order to shape relations and the development of programmes. It involves the business, key individuals, organisations and groups affected by or interested in the development and outcomes of the issue/process being discussed. The aim is to ensure mutual understanding and for all parties to be able to manage decisions that have a potential to affect all concerned. A good consultation process needs to be supported by a strong communication programme.
Exit / handover	A strategy setting out how Vedanta will hand over each project to local

Technical Standard – Community Investment Management

Term	Definition
strategy	stakeholders once its support is withdrawn in due course, so that the long-term sustainability of each project is assured.
Grievance	A concern, complaint or feedback raised by any stakeholder either affected or interested in company operations. Both concerns and complaints can result from either real or perceived impacts of a company's operations.
ICMM (International Council on Mining and Metals)	The International Council on Mining and Metals (ICMM) was established in 2001 and seeks to drive performance improvement through its members which comprise 20 mining and metals companies as well as 30 national and regional mining associations and global commodity associations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.
Interested Party	Persons or groups who, although not affected by the Vedanta Group or operations, have an interest in or influence over Vedanta and its operations. This might include welfare organisations, non-government organisations, local businesses and political groups.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Records of communication / consultation	Records of communication / consultation may include key e-mails, letters, newsletters, memorandums, complaints, opportunities for improvement, records of distribution/attendance, records of formal and informal meetings and records of commitments. Note: the businesses need to identify communications that are critical to ensure avoidance of risks (both to community and employees).
Representative Participation	Through stakeholder engagement all stakeholders and parts of society are represented and able to participate in dialogue with operations which they are directly impacted by or interested in.
Strategic Community Investment	Community development activities relating to the operation's overall social, environmental and economic responsibilities, which are linked to operational impacts and focus on promoting project related opportunities for local communities and other stakeholders.
Community Investment	Community development activities relating to the operation's overall social, environmental and economic responsibilities, but which might be unrelated to a project's direct impacts and hence are largely philanthropic in nature.
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence

Technical Standard – Community Investment Management

Term	Definition
	its outcome, either positively or negatively. This can refer to shareholders, lenders, employees, communities, industry, governments and interested third parties.
Stakeholder engagement	<p>An umbrella term encompassing a range of activities and interactions between Vedanta and stakeholders over the life of a project that are designated to promote transparent, accountable, positive, and mutually beneficial working relationships.</p> <p>Stakeholder engagement includes stakeholder identification and analysis, information disclosure, communication, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.</p>
Vedanta Company	A subsidiary of Vedanta Group either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)
Vulnerable Groups	Individuals or groups within the project area of influence who could experience adverse impacts more severely than others based on their vulnerable or disadvantaged status. This vulnerability may be due to an individual's or group's race, sex, language, religion, political, or other opinion, national or social origin, property, birth or other status. In addition other factors should be considered such as gender, ethnicity, culture, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources.

4. PROGRAMME REQUIREMENTS

All Vedanta subsidiary companies and operations are required to follow the requirements listed below with regards to the mechanisms for designing, implementing and evaluating Community Investment Management strategies effectively.

4.1 General requirements

Community Investment plays a key role within Vedanta's overall strategy to promote social and economic development amongst the local communities and broader society in which it operates. Whilst the operations itself can make significant contributions to the local communities (such as through employment, its supply chain, development of infrastructure and payment of taxes), an effective Community Investment programme can enhance these positive impacts and socioeconomic benefits. The key requirements set out below will ensure that maximum benefit can be realised for the local communities, broader society and Vedanta itself:

Technical Standard – Community Investment Management

- a) Vedanta shall ensure that the Community Investment programme is strategic i.e. aligned with the company's own business goals, whilst responding to real community needs, and implemented through local partnerships that build local capacity and sustainable development.
- b) All group companies will incorporate the Community Investment programme as an integral part of their business plan.
- c) Vedanta shall establish a clear strategy from the outset mapping out what is to be achieved through its Community Investment programme, rather than taking an ad hoc approach depending on community requests as and when they arise.
- d) Vedanta shall ensure that the Community Investment programme is supported by an effective broader strategy for engagement between the company and communities, with robust programmes in place for stakeholder engagement, grievance mechanisms and managing environmental and social impacts. The requirements for these are set out in their corresponding standards, including TS5 Stakeholder Engagement, TS4 Grievance Mechanisms, TS11 Environmental Management, TS3 Land and Resettlement Management, and TS1 Cultural Heritage.
- e) The Community Investment programme shall be focused on two levels. The primary level of focus will be on the local communities in the areas that Vedanta operates, with employee volunteering planned and encouraged, alongside potential partnerships with local NGOs and local government. The second level of focus will be on a regional basis, which will also focus on partnering with NGOs and local governments.
- f) Community Investment projects shall be focused primarily on the local communities in the areas that Vedanta operates, rather than national or regional initiatives.
- g) A small number of high quality and focused initiatives is preferable to spreading resources across a broad range of initiatives. These shall be derived from participatory consultation with all groups in the local area including marginalised vulnerable groups.
- h) The Community Investment programme shall include both short-term and long-term objectives, although there needs to be a primary focus on achieving sustainable long-term benefits, and avoiding community dependency on the initiatives.
- i) The strategy shall be developed in collaboration with the local communities and shall be implemented through partnerships with other key stakeholders, such as local and national government, local and international NGOs, international donor organisations, and other companies operating in the area.
- j) The strategy shall aim to build the capacity of local implementing partner organisations and community based organisations (CBOs) in the local area.
- k) The outputs and outcomes of the company's Community investment programme shall be identified and shall be measurable. A tracking process shall be put in place to monitor and evaluate the benefits of the Community investment programme in terms of benefits to the business and benefits to the communities.

Technical Standard – Community Investment Management

- l) Vedanta can optimize its own benefits from its Community Investment programme by ensuring that effective internal and external communication plans are in place to share the achievements with all relevant stakeholders.
- m) Vedanta's Community Investment programme relates to added value investment, and must not be confused with the company's obligations or attempts to mitigate adverse impacts on the local communities from its operations.
- n) Community Investment activities and projects should be distinguished from donations where Vedanta Companies merely pay money to an organisation in support of a cause where implementation is done externally and Vedanta may not have any further interest.
- o) Each group company should have a community relations department. The department will have a qualified community relations manager and it should be equipped with the necessary resources and budget for effective function.
- p) The scope of Vedanta's Social Investment programme does not focus on the provision of benefits to the workforce or investment directly aimed at improving labour relations. All workforce-related issues are dealt with in other standards, such as TS2 Employee Consultation and Participation, TS4 Grievance Mechanisms, MS 6 Competency, Training and Awareness, POL 1 Social Policy and POL 2 Human Rights Policy.
- q) Central Coordination: The responsibility of the community relation programme will rest with the Business CEO/COOs, the effectiveness of the programme will be monitored centrally by Group Community Relation Head and the technical guidance/advice will be given from the Vedanta Resources as necessary.

4.2 Identifying the business case

A key element of making Vedanta's Community Investment strategic depends on aligning the organisation's business goals and competencies with the development priorities of the local communities. The following points shall be considered:

- a) An assessment shall be made to identify which key business drivers can benefit most from the Community Investment programme (e.g. enhanced reputation, productivity gains, risk reduction). This should draw upon input from functional teams across the business to map and analyse the key issues, risks and opportunities.
- b) Once identified, these business drivers shall be used to drive the development of the Community Investment strategy.
- c) Employees across all functions of Vedanta's operations must be made aware of the Community Investment programme, and understand their roles in supporting good company-community relations.

4.3 Understanding the Community Investment environment

Gaining a clear understanding of the needs of the local communities, along with the characteristics and complexities of the local landscape and demography (in terms of stakeholders and their

Technical Standard – Community Investment Management

relationship to the company), plays an important role in reducing the risk of developing ineffective or unrealistic programmes. Vedanta operations shall carry out the following:

- a) A community profile shall be prepared, with the assistance of competent local or national level consultants as required, to set out the demographic, socio-political, economic, educational and other relevant characteristics of the area.
- b) A comprehensive stakeholder analysis shall be undertaken, with the assistance of competent local or national consultants as required, to map out all local stakeholders and understand their relationships to the operation, their key concerns, their development needs and priorities and their potential capacity to partner with the company to implement social investment projects.
- c) The process of stakeholder analysis shall incorporate direct engagement with the various stakeholder groups, carried out in line with the requirements set out in the *Stakeholder Engagement* Technical Standard.
- d) Vedanta shall utilise the stakeholder analysis to identify those groups that are most vulnerable to the operations and those that are most in need of help from the Community Investment programme.
- e) Vedanta shall identify all stakeholder groups that are already involved in development work in the area, such as local government, donor agencies, NGOs, community-based organisations and other companies operating in the area. For each stakeholder group, the following should be identified:
 - The development work already taking place, so duplication of efforts and initiatives are avoided.
 - Any groups that can help in the delivery of the programme through strategic partnerships.
- f) Particular challenges to consider and mitigate during this scoping phase include:
 - Exclusion of certain groups, such as women or vulnerable groups, from participation due to cultural norms within local communities.
 - Previous actions that may have created mistrust among the local communities.
 - Problems with local governance, such as corruption, lack of capacity or political will.
 - Low capacity amongst local organisations.
 - Conflict or post-conflict situation, with risks of aggravating existing tensions or sparking new conflict.

4.4 Engage communities

It is critical to the success of the Community Investment programme that communities are engaged throughout the process, and allowed significant input into the development of the strategy. Key elements of effective community engagement include:

Technical Standard – Community Investment Management

- a) The communities shall be engaged throughout the development and implementation of the Community Investment programme.
- b) The emphasis shall be placed on facilitating community decision-making and ownership, allowing them to define their own futures, identifying their needs and opportunities, and prioritising the areas that should benefit from Community Investment.
- c) Participatory approaches shall be used to facilitate engagement, and project implementation through existing community based organisations, groups or institutions shall be encouraged.
- d) The expectations of communities shall be carefully managed throughout the process.
- e) Key stakeholders, such as local government and community-based organisations, shall also be involved.
- f) Vedanta shall take steps to ensure that all voices from the community are heard, with particular focus on ensuring the participation of women and vulnerable groups.

4.5 Developing the Community Investment programme

- a) The outputs from the previous sections (the business case for Community Investment, understanding of the Community Investment environment, and views of the local communities and other stakeholders on their development needs) shall be combined to provide a detailed evidence base on which to determine the Community Investment programme.
- b) The first step shall be to map out the possible beneficiaries of the Community Investment programme, and the thematic areas that should be focused on.
- c) A limited set of Community Investment themes with clearly defined beneficiaries shall be selected. These shall focus on areas which are best suited for company-community collaboration, incorporating key Community development priorities for both communities and government, and contributing to the business objectives of Vedanta. These themes should also be selected based on the ability for their implementation through partnerships with local NGOs and the local government.
- d) The Community Investment programme should be separate from the requirements for resettlement and rehabilitation of communities affected by Vedanta operations. The actions required in relation to resettlement and rehabilitation are set out in the technical standard on Land and Resettlement.
- e) Important themes on which to focus may include capacity building, health and hygiene, education, employment, small business development, micro-finance, skills training, agriculture, animal husbandry, sports and culture, community asset creation, and bio investment.
- f) Before undertaking any key community project a baseline / feasibility study is mandatory.
- g) Target groups of beneficiaries should focus on vulnerable social groups whose aspirations and needs can be addressed by Community Investment activities, and might include women, children and youth, marginalised groups, farmers and fisherman. As set out in other sections

Technical Standard – Community Investment Management

within this document, these groups should be consulted and actively involved throughout the process.

- h) Once the thematic areas and beneficiary groups have been selected, individual projects should be selected and developed based on an assessment against the following criteria:
- Positive impact on sustainable development
 - Designed in consultation with local communities
 - Local participation and capacity building
 - Implemented through partnerships with local organisations
 - Good fit with existing development activities in the area
 - Sustainability, delivering lasting benefits and avoiding dependency
 - Replicable across other communities
 - Measurable and quantifiable outputs and outcomes
 - Transparency, open to internal and external scrutiny
 - Facilitating leverage of additional Community Investment funding
- i) Whilst a limited number of high quality projects are preferable to spreading resources thinly across a wide range of projects, an element of diversification of the Community Investment portfolio in terms of thematic area, risk and time horizon is also preferable.
- j) Once individual projects have been selected the following details, as a minimum, should be documented for each project:
- Introduction and background to the project
 - Objectives, targets and key performance indicators
 - Key outputs expected, and beneficiary groups
 - Roles and responsibilities of parties managing the project
 - Budget and other resources required
 - Timelines and milestones during the project
 - Communication plan (internal and external)
 - Exit strategy
- k) Of particular importance is the need to establish key performance indicators, which shall:

Technical Standard – Community Investment Management

- Provide a measure of the extent to which investments contribute to the objectives.
- Focus on longer-term outcomes and impacts, not just short-term outputs.
- Be jointly defined and agreed with other stakeholders such as project partners and the beneficiary communities.

4.6 Implementing and managing the programme

- a) There are a number of implementation models that Vedanta shall consider for delivering their Community Investment programmes:
 - In-house implementation;
 - Company Foundation or Fund;
 - Third party implementation;
 - Multi-stakeholder partnership.
- b) The most appropriate implementation model will vary depending on the specific situation, and Vedanta shall consider the following before deciding which will be most effective:
- c) Which implementation model will best support the objectives of the Community Investment strategy?
 - How can Vedanta foster participatory decision making and governance?
 - How can Vedanta maintain ownership, visibility and oversight?
 - How can Vedanta ensure sustainability and accountability for the project?
 - What capacity building will be required to support the implementation model?
 - How can an effective exit/handover strategy be incorporated into the implementation model?
- d) The following shall be considered whilst deciding on the most appropriate implementation model:
 - Direct implementation performed in-house allows Vedanta's staff to use their skills to address community needs, and gives Vedanta direct involvement in the design and delivery of the project. However, there is a risk that the project may not be sustainable, at least until local capacity has been built.
 - Implementation via third parties such as NGOs and community groups, or in partnership with these third parties, is in most cases seen as best practice because it:
 - Improves sustainability of the project, through involvement of local organisations and building their capacity.

Technical Standard – Community Investment Management

- Utilises the experience, skills and perspectives of civil society organisations, which often have expertise to offer in the context of Community Investment projects.
 - Draws upon the local knowledge of civil society organisations, and the trust they have within the local community, which can increase Vedanta's credibility.
 - Extends the reach and potential scale of the project, through the resources and community networks of the partner organisations.
- e) However, the successful involvement of third parties will depend on the specific situation and the availability of suitable partner organisations.
- f) Regardless of the implementation model selected, managing Community Investment programmes requires professionally-trained staff with skills and competencies in areas such as community organising, stakeholder engagement and issues management.
- g) When establishing partnerships with other organisations, Vedanta must ensure that roles and responsibilities of all parties are outlined and documented, along with criteria for measuring success.

4.7 Contract and order placement

An effective methodology will be adopted while awarding contracts to Community Investment related works. Guidance on the methodology is provided in *Appendix A* attached to this Standard.

4.8 Sustainability, investing in capacity building and exit strategy

The long-term success of a project depends on its ability to become self-sustaining over time and avoid the creation of dependencies, so that Vedanta can reduce or withdraw support in due course without negative consequences. Capacity building should be an essential component of Vedanta's exit and sustainability strategy, as strengthening local partner organisations and promoting self-reliance will greatly improve the likelihood of a positive legacy remaining once Vedanta's operations in the area cease. For each project, Vedanta will need to consider the following:

- The ability of the project to continue in the absence of Vedanta's support, and any actions required to address sustainability issues.
- The need for capacity building or skills training both internally and externally shall be considered to provide ongoing support to the project, including within communities, NGOs, local government and Vedanta's operations itself. These should focus on both technical and behavioural capacities.
- Vedanta shall make the intended term of the support clear to the beneficiaries and other stakeholders at the outset, reminding them regularly, and raising awareness of the importance of long-term sustainability for the project.
- Vedanta shall develop an exit or handover strategy for each project that it supports. This should include:
 - Consultation and agreement with communities, local government and/or other partners;

Technical Standard – Community Investment Management

- A communication plan for the exit strategy, with adequate notice period given to beneficiaries and other stakeholders (ideally a minimum of one year to exit);
- A range of options to ease transition; and
- A timeline for decreasing its support and building self-sufficiency.

4.9 Monitoring and evaluation of the programme

The company shall put in place an effective system for monitoring and evaluating the Community Investment programme to ensure that it meets its objectives, to measure the performance and successes of the programme, and to highlight any shortcomings and changes to the programme that may be required.

- a) Effective monitoring and evaluation should provide Vedanta with clear information on:
- The extent that the programme and individual projects are progressing against the objectives, indicators and milestones.
 - The impact that the investments are having on the intended beneficiaries.
 - How the project or programme is being viewed by the stakeholders, in particular the beneficiaries.
 - The extent to which successes are being translated into tangible business value for Vedanta.
 - Any actions required to improve the implementation and management of the projects and programme.
- b) The beneficiary communities shall be engaged in a process of participatory measurement to obtain their feedback, making particular efforts to ensure that the voices of women and marginalised groups are included. Mechanisms for participatory measurement include community and multi-stakeholder forums, community scorecards / report cards and suggestion boxes.
- c) An evaluation of the use of funds shall be carried out periodically to ensure they are being used appropriately and properly accounted for.
- d) The objectives and targets shall be reviewed regularly to ensure that they are still appropriate, and updated where necessary.
- e) The overall Community Investment programme shall be liable to a periodic review, with an evaluation of how it can be implemented and managed more effectively.
- f) Whilst the Community Investment programme measurement may not necessarily be quantitative in nature, progress and success should be quantified where possible.

Technical Standard – Community Investment Management

4.10 Reporting and communicating the results

- a) A communications plan shall be developed at the outset of the project, ensuring that information is delivered to key stakeholders in a timely, transparent and accountable way.
- b) Internal and external stakeholders shall be engaged on a regular basis to keep them informed of progress and results from the Community Investment programme, and to manage their expectations effectively. These stakeholders should include:
 - Beneficiary communities.
 - Employees.
 - Local and national government.
 - Local and international NGOs.
 - Media.
 - Investors and financial analysts (particularly in terms of the business value from the Sustainable Investment strategy, such as risk reduction, enhanced reputation and/or productivity gains).
 - The messaging for each group shall be carefully tailored to their needs, and a range of communications tools and channels shall be used as appropriate.
 - Project partners shall be engaged to reinforce Vedanta messages to the appropriate stakeholders.

4.11 Partnerships, NGO selection and Grants

Guidance on partnering, selecting NGO selection and making grants is provided in *Appendix B* attached to this Standard.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure they comply with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been

Technical Standard – Community Investment Management

established at Vedanta Group, Company or local level and which meet the requirements as set out in the *Sustainability Data Management Technical Standard*.

The evaluation of performance shall include, as a minimum, confirmation that:

- Each Vedanta operation has developed a Community Investment programme, based on:
 - Alignment with key business drivers;
 - An understanding of the local conditions for Community Investment;
 - Consultation with the local communities.
- Individual projects have been developed, based on the selection criteria set out in 4.5(f), which will meet the objectives of the Community Investment programme;
- Key performance indicators have been developed to measure success of projects towards meeting their individual objectives, and the overall objectives of the programme;
- Partnerships are established with local community groups or NGOs to participate in the implementation and management of the projects;
- An exit or handover strategy is in place for each project to ensure long-term sustainability;
- An effective system for monitoring and evaluation of projects has been established, including direct engagement with the beneficiary communities;
- A communications plan has been developed at the outset of each project, delivering information and progress on the projects to key stakeholders in a timely, transparent and accountable way.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals)	<p>The ICMM has produced many best practice documents on a range of health, safety, environment and community issues relating to mining:</p> <p>http://www.icmm.com/library</p> <p>Included within this is a <i>Community Development Toolkit</i>:</p> <p>www.icmm.com/document/2</p>
International Finance	The IFC has published guidance on <i>Strategic Community</i>

Technical Standard – Community Investment Management

Reference	Description
Corporation Good Practice Handbook (2010)	<p><i>Investment: A Good Practice Handbook:</i></p> <p>http://www.ifc.org/ifcext/sustainability.nsf/Content/Publications_Handbook_CommunityInvestmentic</p> <p>A summarised 'Quick Guide' version of the handbook is also available.</p>

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
POL 1	Social Policy
TS 05	Stakeholder Engagement
TS 02	Employee Consultation and Participation
MS 05	Objectives, Targets and Performance Improvement

Technical Standard – Community Investment Management

Appendix A:

Contract and order placement

The following methodology will be adopted while awarding contracts to Community Investment related works. Purchase orders will be issued for CSR activities as per the normal schedule of authority of the unit/company.

Indent Initiation

- Purchase Requisitions (PRs) and Work Requisitions (WRs) relating to CSR activities to be raised as per the normal schedule of authority of the unit/company.
- For CSR work contract priority will be given to the contractors from the operational villages of the Company. The contractor should give a one year warranty for the CSR Job awarded to them, guaranteeing the quality of job to be done.
- Unavoidable recurring expenses on maintenance should be covered through and Annual Maintenance contract.
- Every CSR work contract award should be on the basis of written request by the concerned community or Institution where the work will be undertaken.
- At a periodical interval of every financial year (not more than one year) a Gram Panchayat member of the respective Gram Panchayats along with the concerned civil engineer and Company CSR Head will jointly assess the quality of infrastructure jobs done, and accordingly assess the performance of the concerned contractors. Based on this the report of the job done shall be prepared for the supervision by the Vedanta management. The performance assessed through this exercise will decide the placing of the future job orders to them. Each unit shall maintain performance score cards of all vendors for future reference.
- The CSR department will identify the need based jobs and soft issues and infrastructure development for community development. The company civil engineer will prepare the BOQ of infrastructure development jobs and get approval by the concerned authorities of Company.
- A team member of CSR will be assigned the responsibility to create the Purchase Requisition (PR) and Service Entry Sheet (SES) of the CSR jobs.
- Every Unit must have clearly outlined procedures for CSR while awarding any service/works contract.

Single Party Order

Single party order can be issued as per the limit as defined by the subsidiary company in case of urgent requirements, non-availability of vendors and non-responsiveness of vendors. The CSR

Technical Standard – Community Investment Management

team will move the single party order with due approval from the CEO/ COO/ Finance and nominate the single party executor/contractors and communicate the same to Head Commercial based on which the party will be called for negotiations and finalization of the contractors.

The commercial department, along with civil engineer in case of civil work, and one CSR team member and Finance Department member, will negotiate the rates and other terms with the party and award the contract accordingly. These orders shall be released on single party basis as special case.

Liquidated Damage Clause. Liquidated Damages clause shall be applicable for CSR work as mentioned below:

In case of award of contracts to Project Affected and Project Displaced people, there will be an LD clause in the contract but may be waived in the Notes for Approval (NFA) duly approved by CEO/COO. It is assumed that since the local contractors are in the learning phase and in the process of acquiring skill, Vedanta will promote entrepreneurs and allow them the extended period for completion of job with no compromise on the quality of the product.

- In case of the award of contracts to Professional Organisations, technically expert agencies and contractors, where their status is not recognised as Project Affected or displaced, LD clauses shall be applicable.
- In educational, livelihood, health and other socio-cultural initiatives or projects, the deliverables should be measured vis-a-vis detailed implementation plan and all payment is made on the basis of accomplishment thereof. LD Clause shall not form a part of such a contract.

Notes for Approval (NFA)

- On completion of negotiations, NFA will have details of vendors evaluation, reasons for rejection or selection of vendors, price, broad terms and conditions (taxes, payment terms, BGs/LCs, LD, completion schedule etc). NFA will also have details of other terms and conditions which are in deviation of the Standard Terms and Conditions. NFA shall also specify the total cost of the contract (commitment to the party plus loading for any taxes, duties, clearance charges, transportation etc.).
- NFA to be authorised as per the unit company schedule of authority.

Note: Amendment of an existing contract needs approval from the same authority, which has approved in the earlier NFA/ Contract.

Approval of Payments

- All bills to be signed by CSR Functional Incharge and approved by Head of CSR.
- No POWO shall be issued for CSR related payments, in case of amount as defined by the subsidiary company less than or equal per transaction. Only NFA will be prepared and signed by respective functional heads and approved by CEO.

Technical Standard – Community Investment Management

- No POWO shall be issued for CSR related payments, in case of amount as defined by the subsidiary company less than or equal per transaction. Only NFA will be prepared and signed by respective functional heads and approved by CEO.

Contract Closure Note

Each Contract has to be formally closed at the end of the project. The company standard contract closure note/checklist available with the commercial department will be provided to the CSR department.

Technical Standard – Community Investment Management

Appendix B:

Partnerships, NGO selection and Grants

Partnering gives access to information, networks and alliances that help us keep in touch with a complex and rapidly changing world. It also helps enhance networks and forge new relationships.

Why Partner?

There are a number of distinct advantages to creating partnerships, including:

- Greater access to combined partner resources
- Sharing of experience, networks and contacts
- Benefitting from greater diversity of strengths
- Sharing of responsibilities
- Managed well, it can bring significant benefits to both
- Platform for advocacy
- Can aid in community buy-in and trust
- Can help ensure projects are sustainable

Partnerships can be fostered with the local community, NGO's, government, multi and bilateral agencies for technical support, knowledge sharing and funds, colleagues within the Group for expertise and employees at work and in the township for volunteers. Vedanta operations can enter into partnerships with the government and multi and bilateral agencies, either as implementing partners (like outsourcing) or sponsorship / grant making.

Planning for Partnership:

Step I: Be clear about – rationale, purpose and goal

Step II: Develop an overall strategy for activities and Resource Mobilization

Step III: Ensure ownership and commitment from all partner's (Roles & Responsibilities)

Step IV: Establish an action plan

Step V: Set targets / milestones

Step VI: Monitor, measure, review

Technical Standard – Community Investment Management

Step VII: Report and communicate

Step VIII: Review progress with stakeholders

Step IX: Refine policies, activities and strategy

Step X: Share successes and setbacks

Step XI: Seek perceptions, ideas and involvement

Norms for NGO Selection

Before selection of any NGO, the norms set out below have to be followed.

- The organisation should exist and be registered as not for profit, with no political affiliations
- The organisation has been in existence for a minimum of 8-10 years for the locations where Vedanta have had operation for more than 10 years, and 3-5 years for locations where Vedanta have new operations.
- The physical address given by the organisation is verifiable.
- Legal Status
 - The organisation is registered as a Trust / Society or Section 25 Company
 - Registration documents of the organisation are available on request
 - The organization should have an 80G certificate
- The organisation is able to state what it is aiming to do, and can state achievements related to its aims.
- A shared vision/purpose/objective is articulated beyond the registration documents.
- The organisation has defined indicators, which will measure its performance against its stated objectives.
- The organisation is committed to and practices good governance in order to enhance effectiveness.
 - The organisation has a Governing Board (or similar)
 - Disclosure of details of Board members: name, age, gender, position and occupation
 - Not more than half the Board members have remunerated roles
 - The Board meets at least twice a year with quorum as stipulated in its own Memorandum of Association

Technical Standard – Community Investment Management

- Minutes of the Board meetings are documented and circulated
 - All remuneration and reimbursements to Board members are to be disclosed
 - The Board approves programmes, budgets, annual activity reports and audited financial statements
 - The Board has a policy on purchases, disposals, sale of assets, investments and ensures transparency
 - The Board ensures the organisation's compliance with applicable laws and statutory regulations
- The organisation conducts its programmes and operations efficiently and effectively in the public interest. Activities to be in line with the vision/purpose/objective of the organization.
 - Prior experience for concerned project with specific geographical presence is essential.
 - Priority will be given to organisations having funding from National and International organizations of repute.
 - Appropriate systems in place for periodic programme planning/monitoring/review.
 - Appropriate systems in place for Internal control.
 - Appropriate systems in place for Consultative decision-making.
 - Clear roles and responsibilities for personnel (including volunteers) exist.
 - All personnel are issued a letter of contract/ appointment.
 - Appropriate Personnel Policy is in place.
 - Organisation should have a District and State level presence, and should have representation in different Government and Quasi Judicial bodies.
 - The organization must be willing to provide prompt feedback on the donations/funding we provide.
 - At least 50% of their beneficiaries must be economically underprivileged.
 - Signed audited statements are available: balance sheet, income & expenditure statement, receipts and payments account, schedules to these, notes on accounts and the statutory auditors' report at least for 8-10 years (or as long as they have existed, if shorter).
 - Statement of Accounts to indicate whether they have been constructed on a cash or accrual basis.
 - The organisation's Annual Report be disseminated/ communicated to key stakeholders and available on request every year, within 6 months of the end of the organisation's financial year.

Technical Standard – Community Investment Management

- Accountability and Transparency - Organisation is accountable and transparent to the community served, the state, the public, donors, staff, volunteers and concerned others. Annual report discloses all details related to employees and related expenses.
- Composition of the Board:
 - At least two-thirds of Board members are unrelated by blood or marriage
 - A Board Rotation Policy exists and is practiced
- The organisation must disclose in its annual report, the salary and benefits of its Head, the 3 highest paid members and the lowest paid staff member.
- NGOs having registration under FCRA and 12A under Income Tax Act will be preferred.
- It should have sincere and dedicated leadership with a clean track record of doing good work over a period of time.

Interacting with an NGO:

- Provide immediate feedback to the NGOs whose project proposals cannot be supported (for whatever reason).
- It is advisable to hold meetings at the NGO's place, as it will provide Vedanta an idea about their setup.
- Each NGO should be handled by one person from the CSR team, who will act as an interface between the company and the NGO.
- An exclusive file to be maintained for each project, consisting of proposals, reports, details of disbursements, etc.
- All disbursements to be made by cheque, and receipts obtained.
- The NGO must attach a copy of its 80-G certificate along with the proposal.
- A final report can be prepared at the end of the project/activity. The project site can be revisited, even after the project is completed, to check its progress and impact.
- Do not accept any gifts from NGOs.
- Do not get involved with any political NGOs.

Steps in undertaking a partnership project:

- Identification of a good NGO working in the relevant field
- Encouraging the NGO to develop a good project proposal (a project that has long-term sustainable positive impact)

Technical Standard – Community Investment Management

- Clear identification of beneficiaries
- Detailed description of activities to be undertaken
- Identification of benefits and parameters for measurement
- Identification of milestones to monitor progress
- Identification of funding requirements – with systematic break-up of resources needed and costs thereof. Funding requirements may relate both to capital costs and to recurring costs. For long-term sustainability, certain projects may require support for recurring costs for e.g. 2-3 years.

How to Select Effective NGOs:

- Associating with good, sincere, dedicated NGOs is a crucial need for successful working of the CSR model adopted.
- Finding suitable NGOs should be done through field work. Asking eminent experts in relevant fields e.g. Education, Environment, and Health, and peer referencing (i.e. asking good NGOs about other good NGOs) can provide useful leads.
- After an initial identification, the track record of the respective NGOs should be studied. This may involve site visits where an NGO is doing work, and some of the beneficiaries of the NGO's activities could be contacted for their views.
- Making a good assessment of the NGO's leadership is also an important step in the selection process. Looking at the documentation, reports, brochures, news report, etc. generated by an NGO could provide useful insights.
- Once the association starts, the experience of working together, getting desired results and overall positive impacts for the community would validate the choices and / or provide useful lessons for the future.

Making Grants

The following criteria should be used when evaluating a proposal and making grant decisions to organizations appealing for financial and material help from the company:

- Organization must demonstrate its ability to create and sustain high quality, innovative programmes that provide services resulting in a positive outcome of our project area communities.
- Partnerships that benefit both the community and company.
- Company employee involvement where appropriate.
- Fewer, larger projects with high community impact.
- Project alignment with company focus areas.

Technical Standard – Community Investment Management

- Economically sustainable projects with multiple benefits.
- An emphasis on people rather than things.
- Organization must reside in a community where Company operations are conducted.
- Organization or programme must produce measurable results.
- Organization must have a track record for addressing at least one of the Company's focus areas.
- Organization must have experienced and qualified staff.
- Organization must demonstrate financial stability and the ability to provide services effectively and efficiently.

Vedanta's operations should not support the following:

- Grants that do not positively impact one of our operation's focus areas.
- Direct grants to individuals.
- Grants to political candidates or organizations.
- Grants to organizations with a limited group of supporters or patrons such as fraternal or social groups).
- Fundraising agencies.
- Bricks and mortar projects.
- Salaries, rents and accommodation.
- Travel expenses or conferences.

The following information is required for grant proposals:

- Organization name, address, phone number and contact person's name.
- An overview of the organization's mission and brief description of relevant activities.
- The purpose of the request including any deadlines, the grant amount requested and total project budget.
- A copy of the current operating budget including all sources of revenue and expenses.
- A certified copy of the most recent audited financial statements.
- Brief biographies of programme staff.

Technical Standard – Community Investment Management

- A recent annual report and any other organization materials, if available.
- A roster of the management board of the requesting organization including their professional affiliations.
- A list of current organization contributors.

The company shall review proposals on an ongoing basis. Applicants who submit their requests should be replied to within two weeks of receipt of the application by the Company.

Technical Standard – HIV/AIDS Management

Vedanta Resources Plc

Sustainability Governance System

Technical Standard

HIV/AIDS Management

Technical Standard – HIV/AIDS Management

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Technical Standard – HIV/AIDS Management

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	4
4. PROGRAMME REQUIREMENTS	5
4.1. General Requirements	5
4.2. Prevention	6
4.2.1. Education, Awareness and Behavioural Interventions	6
4.2.2. Operational Controls	8
4.2.3. Non-Discrimination and Confidentiality	8
4.3. Voluntary Counselling and Testing	9
4.4. Treatment and Care	10
4.5. Community Partnerships	11
4.6. Monitoring and Evaluation	11
5. ROLES AND RESPONSIBILITIES	13
6. COMPLIANCE AND PERFORMANCE	13
7. SUPPORTING INFORMATION	13
8. REVIEW	14
9. RELATED DOCUMENTATION	14

Technical Standard – HIV/AIDS Management

1. INTRODUCTION

The purpose of this Technical Standard is to establish a workplace programme for the management of HIV/AIDS. HIV/AIDS has a significant and growing impact on the countries in which we operate, and affects Vedanta’s employees, their families and local communities. We will respond through establishing a workplace programme based on prevention, non-discrimination, voluntary counselling, testing, treatment and care for affected employees, their families and the wider community.

2. SCOPE

This Technical Standard is mandatory and applies to all Vedanta subsidiaries, operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractor employees. This Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, operation and closure).

3. DEFINITIONS

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

Term	Definition
HIV	The virus that causes AIDS. The virus is acquired through sexual activity, sharing of infected needles and cutting instruments, contaminated blood supplies and/or mother to foetus/infant transmission. The virus can remain in the body for 5-10 years or more before full symptoms of opportunistic infections or AIDS appear. The virus is detected in the bloodstream through a test.
AIDS	The late stage of HIV disease. AIDS involves the loss of function of the immune system as CD4 cells are infected and destroyed. CD4 cells are important as they organise the immune system’s response to bacteria, fungi and viruses. Without them, the body to succumb to opportunistic infections or unusual cancers that would not generally be suffered by people with intact immune systems.
Prevalence	The number of persons with a particular condition in a given population. Prevalence is determined by dividing the number of people with the condition by the total population.
Incidence	The number of new cases of a disease recorded in a specific time period, typically one year.
Opportunistic Infection	An illness that afflicts people with a weakened immune system as occurs with HIV. Common opportunistic infections in people with HIV/AIDS include Tuberculosis (TB), certain kinds of pneumonia, fungal infections, viral infections and cancers.
Sexually Transmitted Infection (STI) and Sexually Transmitted Disease (STD)	An infection transmitted through sexual contact A virus or bacteria transmitted between sexual partners.
Epidemic	A sudden and unusual increase in a disease that exceeds the number expected on the basis of experience.
ARV (Anti-retroviral)	Anti-retroviral drugs are taken by HIV infected individuals at a certain stage of their illness. They suppress or inhibit the

Technical Standard – HIV/AIDS Management

Term	Definition
Therapy	development of HIV to AIDS. They can also be taken as an emergency treatment if HIV infection is suspected (for example in the instance of rape).
Harassment	Any form of verbal or non-verbal behaviour that is directed at the infected individual resulting in the individual feeling threatened, insecure or distressed.
Discrimination	Denial of opportunities or benefits (otherwise available to everyone) to a person or group because of real or assumed features or conditions of that person or group
Peer Education	Sharing of information by people of similar backgrounds and experiences (e.g. similar ages, occupations or life experiences).
Stigma	Negatively perceived characteristic(s) of a person or group. Stigmatisation is the labelling of persons with certain features, for example, those who are (or are considered to be) HIV positive.

4. PROGRAMME REQUIREMENTS

This Standard aims to outline the requirements in order to anticipate, prevent or where not possible, minimise, the impact of HIV/AIDS on the health of our employees, their families and the wider community. The requirements described below shall be followed by all Vedanta subsidiary companies and operations.

4.1. General Requirements

a) The HIV/AIDS programme will comprise the following five elements:

- i) Prevention through:
 - Education, Awareness and Behavioural Interventions
 - Operational Controls
 - Non-Discrimination and Confidentiality
- ii) Voluntary Counselling and Testing
- iii) Treatment and Care
- iv) Community Partnerships
- v) Monitoring & Evaluation

b) The HIV/AIDS Management programme shall meet the requirements of the *IFC Performance Standards and IFC EHS and Mining Sector Guidelines*. These requirements are summarised as follows:

- *Performance Standard 1 – Assessment and Management of Social and Environmental Risks and Impacts*. This involves identifying and evaluating social risks and impacts of the project, and in response adopting a mitigation hierarchy to anticipate and avoid, or

Technical Standard – HIV/AIDS Management

where avoidance is not possible, minimise or compensate for risks and impacts to workers and affected communities, in this case, the risk and impact of HIV/AIDS.

- *IFC EHS Guidelines.* The EHS Guidelines contain the performance levels and measures that are normally acceptable and applicable to projects or operations. Vedanta operations are expected to refer to these Guidelines (or other internationally recognised sources, as appropriate). Section 3.6 on disease prevention describes how communicable diseases and specifically sexually transmitted diseases including HIV/AIDS pose a significant public health threat, particularly in construction phases due to factors such as influx and high mobility of labour. The EHS guidelines recognise the need to combine behavioural and environmental modifications including, at a project level, determining prevalence, providing and actively promoting screening and treatment of workers, prevention through awareness and education, counselling, influencing behaviour and encouraging condom use. In addition, the guidelines focus on improving access to medical support through collaboration with local authorities, training of health workers, provision of health services and ensuring access to medical treatment, confidentiality and appropriate care, particularly with respect to migrant labour.
- *IFC Sector Guidelines.* These Guidelines provide the performance levels and measures that are normally acceptable and applicable to projects or operations in specific industry sectors. Industry sector guidelines that may apply to Vedanta operations include mining; base metal smelting and refining; and wind energy. The EHS Mining Guidelines refer specifically to the risk of HIV/AIDS and recommend implementation of a comprehensive programme in line with the requirements of the IFC EHS (General) Guidelines described above.

4.2. Prevention

HIV Transmission among employees can and should be prevented. This is possible through the implementation of a workplace HIV/AIDS programme which promotes a variety of interventions and is supported by strong management commitment and the involvement of employees, contractors, unions and where possible, the wider community. The following sections describe the different elements of the Prevention programme required.

4.2.1. Education, Awareness and Behavioural Interventions

- a) A comprehensive workplace Education and Awareness programme shall be implemented for all operations with the following target groups, minimum content and characteristics.

Technical Standard – HIV/AIDS Management

Target Groups for Education and Awareness	Content of Education and Awareness	Characteristics of Education and Awareness
<ul style="list-style-type: none"> • Employees • Contractors • Front-line managers (to enable them to manage HIV/AIDS issues within the workplace) • Peer Educators (to enable them to train and raise awareness with others in their peer-group both formally and informally) • Specific groups identified as being 'at-risk' groups, such as contractors, drivers, travellers and other mobile employees and women. • The families of employees • The wider community within the operational area. 	<ul style="list-style-type: none"> • What HIV and AIDS are • How HIV is spread • Symptoms and debilitating effects of HIV and of AIDS including associated and secondary diseases • Global and local impact of HIV/AIDS • Links to gender and social equality • Links to drug and alcohol abuse • Links to other Sexually Transmitted Infections (STI's) • Safe and non-safe behaviours • Prevention methods and precautions • Anti-retroviral Therapy treatment • Myths about HIV and AIDS • The importance and process for voluntary counselling and testing • The impact of AIDS on individuals and families • Care, support and the importance of wider health and wellbeing including nutrition and diet • Non-discriminatory and confidentiality requirements for the company and employees • Any national programme requirements 	<ul style="list-style-type: none"> • Provision of information in a variety of forms, not just relying on the written word • Provision of information in a variety of languages suitable to the local audience • Programme is tailored to age, gender, cultural context and behavioural risk factors of the workforce • Information should be given with consideration of local customs and taboos whilst maintaining integrity of message. • Additional and separate sessions should be offered to gender and peer groups • Training should be provided by qualified and experienced personnel, medical staff or trained counsellors or trainers • Educators or training providers must be quality controlled and where possible recommended by an international body such as the Global Business Coalition • Curriculum must be based on internationally recognised and current information

b) Behavioural Interventions

All operations shall provide a reliable supply of free or affordable high quality male *and* female condoms. These will be made readily available in the workplace, for example through an on-site clinic, through self-service dispensers in bathrooms and distributed during training and peer-educator sessions.

Trained Peer Educators shall be provided with opportunities to discuss HIV/AIDS risks and impacts with their peer group in order to influence attitudes and behaviours.

Through increased understanding and de-stigmatisation of the disease, individuals will be able to access information about the real risks of HIV/AIDS, allowing them to make informed

Technical Standard – HIV/AIDS Management

decisions and to minimise their exposure. The following activities shall be undertaken to de-stigmatise the disease within the workplace and influence behaviours.

- Communication of Vedanta's non-discriminatory policies to all employees (described in section 4.2.3 below);
- Display of HIV/AIDS posters in common areas throughout operations;
- Condom distribution as described above;
- Awareness campaigns for other Sexually Transmitted Infections (STI's) and their link to HIV/AIDS;
- Organised activities and educational events on World Aids Day on December 1st of each year for employees, their families and where possible the wider community;
- Links to HIV/AIDS programmes and events in the wider community and region;

4.2.2. Operational Controls

- a) Operations will identify and implement operational and design controls to prevent and reduce the spread of HIV/AIDS. Such controls might, for example, include location of camps away from populated areas, and overnight accommodation for drivers and contractors.
- b) Employees trained in First Aid should also be trained in precautions to reduce the risk of transmitting blood borne infections including HIV. As a minimum, gloves and protective goggles should be available in all First Aid Boxes, and guidance available for their use. Masks should also be provided in the First Aid box since they are a part of Standard (Universal) Precautions that need to be followed by health care providers to prevent the spread droplet infection via mucous membrane of mouth & nose. See also Standard (Universal) Precautions as outlined by the Center for Disease Control and Prevention (CDC) - <http://www.cdc.gov/>
- c) All employees with a potential exposure to blood or bodily fluids (e.g. medical staff and first aiders) should have access to post-exposure prophylaxis on site or at the nearest hospitals. Each operation should state the location of the nearest services for post-exposure prophylaxis so that this is immediately available to employees should they be exposed.

4.2.3. Non-Discrimination and Confidentiality

In order to create an enabling environment in which to run an effective HIV Aids programme, it is essential that high standards of non-discrimination and confidentiality are maintained, and any deviation is remedied appropriately.

- a) Discrimination of HIV/AIDS infected or affected employees will not be tolerated, including treating those affected differently or applying non-professional judgement due to an individual's HIV/AIDS status. Vedanta operations will ensure that objective judgement is applied in personnel decisions.
- b) Employee rights, development opportunities, benefits or sick leave will not be affected by HIV/AIDS status.
- c) No employee will be isolated or segregated as a result of their HIV /AIDS status.
- d) Job applicants shall never be asked to disclose their HIV/AIDS status. Vedanta will ensure that job candidates who are known to have HIV/AIDS are treated no differently from those

Technical Standard – HIV/AIDS Management

who have any other life-threatening and non-contagious disease. Fitness to perform the job will be the only criterion that shall apply.

- e) Any form of discrimination or harassment, either directly or indirectly due to a person's HIV/AIDS status shall be considered misconduct warranting disciplinary action.
- f) All persons living with HIV or AIDS have the right to privacy and confidentiality. Employees are not obliged to inform management or any other person of their HIV/AIDS status unless disclosure is legally required.
- g) To ensure confidentiality requirements, this technical standard will be communicated to internal employees who handle personnel information and any Vedanta medical providers.
- h) If an employee voluntarily discloses their HIV/AIDS status to anyone within the organisation, this will be maintained in strictest confidence in line with other medical information and will not be shared without the individual's express and written consent.
- i) Approved third party providers for Voluntary Counselling will maintain test results in the strictest confidence and will never be asked to disclose information on employee HIV/AIDS status to Vedanta.
- j) If information is provided to aid monitoring and evaluation of the HIV/AIDS programme, such as counselling and testing rates, behaviour surveys and risks, statistics will be scientific, confidential, ethically prepared and will never disclose information about individuals and their HIV/AIDS status.

4.3. Voluntary Counselling and Testing

A high percentage of those infected with HIV are unaware of their HIV status, and may only be aware of secondary infections. In order to change behaviours, avoid infection of other individuals, and to seek early treatment, the key aim of the HIV/AIDS programme should be for employees and their families to 'know their status', through the implementation of the following:

- a) Testing must be coupled with pre and post test counselling
- b) Operations will make available contacts and resourcing for employees and their families to use an approved Counselling and Testing facility (with specifically trained counsellors and where possible approved by an international body such as the Global Business Coalition, which can provide information on appropriate providers for all segments of an HIV/AIDS programme).
- c) Voluntary counselling and testing will be linked through referral from the chosen Voluntary Counselling and Testing (VCT) clinic to a company chosen care and treatment programmes, and although this link is not anonymous, it is confidential.
- d) Opt-out HIV/AIDS testing approaches have proven successful and well-received in many cases. This is where the company provides confidential HIV/AIDS testing as standard. The testing is still voluntary, and employees can choose not to do this if they wish (to 'opt-out'). This approach uses the principle that having a standard testing process reduces common

Technical Standard – HIV/AIDS Management

barriers to testing (such as stigma, lack of opportunity, inaction, embarrassment etc) and the result is that employees become more likely to take the test rather than decline it. Simultaneously this approach promotes awareness and an open culture of the importance of testing which in turn also encourages participation. Operations will consider this approach when coupled with de-stigmatisation and robust confidentiality controls.

4.4. Treatment and Care

Treatment and care include provision of drug therapies such as Anti-retrovirals (ARV's) which both lengthen life expectancy and protect the quality of life of an HIV positive person. It also includes psycho-social support, support with depression, and help for individuals and families in coping with the disease. Treatment and care provision will be facilitated by the company's medical practitioners and could include all or some of the following

- a) Where unavailable through other sources, the following elements will be made available to employees and their families as part of a comprehensive treatment and care programme:
 - Ongoing counselling support
 - Provision of nutritional support
 - Anti-retroviral treatment programme for employees *and* dependent family members
 - Health education
 - Ongoing health care for treatment of opportunistic infections
 - Support for terminal or home-based care
- b) Treatment and Care programmes should be provided through an expert, qualified and reputable provider who has been approved by a national or international body.
- c) Where unavailable through other sources, anti-retroviral drug therapy will be made available to HIV/AIDS affected employees and their families when clinically indicated and mentally ready (which may be, for example, when a commitment is made to maintain compliant with drug treatment) and through a proscribed, approved and qualified health provider. The provision of anti-retroviral therapy will be coupled with counselling.
- d) Where unavailable through other sources, provision of treatment for STI's and opportunistic diseases for all workers will be provided.
- e) Provision of the services of a doctor or qualified clinician to review the effectiveness of the treatment.
- f) Where unavailable through other sources, Vedanta will provide mother-to-child anti-retroviral therapy to HIV positive female employees and female dependents of employees. Mother-to-Child anti-retroviral therapy given to HIV positive women as recommended by a doctor reduces the likelihood of transmission to the unborn child. This will be coupled with counselling following birth and education in how to reduce post-birth transmission.
- g) Employees who are temporarily unable to perform their duties due to illness occasioned by their HIV/AIDS status will be granted sick leave in order for their health to improve in line with the standard Vedanta sick leave policy.
- h) Where Vedanta is advised by a medical authority that an employee is unable to carry out their duties safely due to illness, and there is no evidence that the situation is likely to improve in the foreseeable future, the Company policy on ill-health retirement shall apply.

Technical Standard – HIV/AIDS Management

There should be nothing special for individuals with HIV/AIDS which may place them at a disadvantage relative to others. All employees, whether infected with HIV/AIDS, or any other medical condition, are subject to performance requirements in their jobs. Where an employee is unable to meet the performance requirements due to illness, the employee's services may be terminated on the grounds of incapacity according to the laid down company regulations on medical termination. In the event that an employee is not able to perform his/her duties an alternate employment may be offered when available. An interview with the employee must be organised to explore alternative options which may include options for lighter duties, and alternative or reduced working hours. If all other options are exhausted, or if the employee turns down the offer of alternative employment, then the employee's services will be terminated on the grounds of medical incapacity. The decisions above should only be made under the following conditions:

- A qualified medical opinion based on fitness for work
- Open and transparent and regular communication of options
- Early and regular advice as to the employee's rights regarding sick leave and implications for termination
- A date to terminate is set if there is no return to work
- All interviews and actions are agreed by both the company and employee and are confirmed in writing to the employee
- Vedanta must ensure compliance with Vedanta HR policies, local legislation, union or worker's organisation agreements, including grievance mechanisms.

4.5. Community Partnerships

Vedanta recognises that the success of its HIV/AIDS strategy is dependent on community health systems, infrastructure and support services in achieving a sustainable, effective and broad-reaching HIV/AIDS programme. As such, Vedanta will seek to form alliances, share knowledge, good practice and implement social investment strategies in partnership with diverse stakeholders including communities, civil society, government and non-government agencies in order to strengthen local community health systems and build capacity specifically in the areas of HIV prevention, education, counselling and testing, care and treatment facilities.

4.6. Monitoring and Evaluation

In order to maintain the effectiveness of the HIV/AIDS programme, monitoring and evaluation of programme elements and external factors will be undertaken, as follows:

- a) Vedanta will monitor and evaluate the evolving HIV/AIDS epidemic in order to develop and improve its response strategies and to effectively manage the impact of the epidemic on employees, communities and the business. Information derived from HIV management will be used to plan appropriately and to periodically review the effectiveness of prevention, care, support and treatment efforts.
- b) Vedanta will collect information on existing local health facilities and services available including testing centres, counselling and care centres, support groups, major hospitals and clinics so that this information can be used to support and inform Vedanta's programmes for the ongoing provision of effective HIV/AIDS treatment and care.

Technical Standard – HIV/AIDS Management

- c) Based on the ICMG Good Practice Guideline on HIV/AIDS, TB & Malaria, Vedanta will monitor and evaluate the following information:

Programme Element	Indicators	Target and Reporting	Frequency
Prevention	HIV Policy in place	-	-
	Financial resources committed and spent on HIV/AIDS programme	Details to be reported	Annually
	Provision of HIV/AIDS training for employees and their families	Details to be reported	Annually
	Number of Peer Educators trained, and active as Peer Educators	1 per 50 employees	Monthly
	Number of operational controls in place	Details to be reported	Annually
	HIV/AIDS prevention infrastructure in place (e.g. trained medical staff, clinics, testing facilities, training materials)	Details to be reported	Annually
	Improved knowledge, attitudes and behaviour practices (through focus group discussions, interviews and/or surveys covering prevention, treatment and care)	Improvements to be reported	3-5 years
Voluntary Counselling & Testing	Percentage of workforce attending VCT counselling	100%	Monthly
	Percent of those people who attended counselling who took an HIV test	100%	Monthly
	Number of people who took an HIV test under an 'opt-out' scheme	100%	Monthly
Treatment and Care	Percent of workforce absent from work	Tracked over time and compare statistics for those in a disease management programme against general workforce averages	Monthly
	Average duration of absenteeism	Tracked over time and compare statistics for those in a disease management programme against general workforce averages	Monthly
	Percent of those who used VCT programme who have registered for care and treatment programme	100%	Monthly
	Percent of those who enrolled in treatment and care programme who are receiving treatment	100%	Monthly
Community Partnerships	Number of community members trained in HIV/AIDS	Details to be reported	Monthly
	Percent of community who underwent HIV/AIDS training who enrolled in VCT counselling	100%	Monthly
	Percent of community who enrolled in VCT counselling who took an HIV/AIDS test	100%	Monthly
	Number of collaborative partnerships with different community or government organisations regarding increasing the capacity of HIV/AIDS programme (e.g. training, awareness campaigns, VCT facilities, provision of treatment and care)	Details to be reported	Annually

Technical Standard – HIV/AIDS Management

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites shall ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities shall be included in job descriptions, procedures and/or other appropriate documentation.

6. COMPLIANCE AND PERFORMANCE

Each Vedanta operation shall ensure it complies with the requirements of this standard. Performance against meeting the requirements of this Standard shall be assessed periodically, documented and, where required, reported to Vedanta Group. The assessment of performance shall include setting and reporting on key performance indicators (KPIs) where these have been established at Vedanta Group, Company or local level. The evaluation of performance shall include, as a minimum, confirmation that:

- The HIV/AIDS Policy is in place and reviewed on a twice yearly basis or sooner;
- Financial resources have been committed and spent for the HIV/AIDS programme;
- Peer educators are trained and active at the target of at least 1 per 50 employees;
- A prevention programme is in place which addresses education, awareness and behavioural interventions, operational controls, and ensures non-discrimination and confidentiality in the workforce;
- An approved voluntary counselling and testing programme is available to all employees and their families;
- Where unavailable elsewhere, a comprehensive treatment and care programme is available to all employees and their families;
- Community partnerships are in place to increase local capacity of HIV/AIDS programmes;
- Monitoring and reporting in using the criteria above is in place to evaluate the HIV/AIDS programme.

7. SUPPORTING INFORMATION

Reference	Description
Center for Disease Control and Prevention (CDC)	<p>The CDC has defined a set of precautions designed to prevent the transmission of human immunodeficiency virus (HIV), hepatitis B virus (HBV), and other bloodborne pathogens when providing first aid or health care.</p> <p>http://www.cdc.org</p>

Technical Standard – HIV/AIDS Management

Reference	Description
ICMM (International Council of Mining and Metals)	The ICMM has produced and published good practice guidance on a range of health, safety, environment and community issues relating to mining. http://www.icmm.com/library
ICMM (International Council of Mining and Metals)	The ICMM has produced a Good Practice Guidance on HIV/AIDS, Tuberculosis and Malaria www.icmm.com/document/314
International Finance Corporation Performance Standards Guidance Notes	The IFC has published Guidance Notes to guide the implementation of the full range of performance standards. These are available on the website. The guidance is currently being updated and draft versions are available however these have not yet been finalised and formally published. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards

8. REVIEW

This Technical Standard shall be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it shall be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
POL 09	HIV/Aids
TS 12	Occupational Health Management

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

Vedanta Resources Plc

Sustainability Governance System

**Technical Standard
Indigenous Peoples / Vulnerable Tribal Groups**

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

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Authorised by:	Tony Henshaw
Signature	
Position:	Chief Sustainability Officer

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Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

Contents	Page
1. INTRODUCTION	4
2. SCOPE	4
3. DEFINITIONS	5
4. PROGRAMME REQUIREMENTS	8
4.1 OBJECTIVES	8
4.2 GENERAL REQUIREMENTS	9
4.3 STAKEHOLDER ENGAGEMENT	10
4.4 RISK ASSESSMENT (OR PROJECT CONCEPT)	10
4.5 EXPLORATION	10
4.6 FEASIBILITY/PROJECT DESIGN	12
4.6.1 ESIA - Scoping Exercise	12
4.6.2 ESIA - Indigenous Peoples / Vulnerable Tribal Group Consent & Participation	12
4.6.3 ESIA - Baseline Data Collection	13
4.6.4 ESIA - Assessing Impacts	13
4.6.5 ESIA - Indigenous Peoples / Vulnerable Tribal Group Development Plan	13
4.6.6 ESIA - Disclosure	13
4.7 CONSTRUCTION/OPERATION	13
4.8 CLOSURE	14
5. ROLES AND RESPONSIBILITIES	14
5.1 VEDANTA RESPONSIBILITIES WHERE GOVERNMENT IS RESPONSIBLE FOR MANAGING IP / VTG ISSUES	14
6. COMPLIANCE AND PERFORMANCE	15
7. SUPPORTING INFORMATION	15
8. REVIEW	16
9. RELATED DOCUMENTATION	16

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

1. INTRODUCTION

The purpose of this Technical Standard is to establish the programme design, risk management controls and supporting information, needed to avoid, reduce, and in some cases compensate for adverse Project impacts upon marginalized and Vulnerable Tribal Groups or similar disadvantaged Groups, sometimes referred to as 'Indigenous Peoples' (IPs).

2. SCOPE

The guidance in this Technical Standard applies to all new Vedanta Greenfield Projects where communities of Indigenous Peoples or Vulnerable Tribal Groups are known or suspected to be present within the area of influence. The applicability of this Technical Standard is established during the environmental and social risks and impacts identification process (see TS 8 – Conducting ESIA to International Standards and GN 16 Conducting Environmental and Social Impact Assessments).

This Technical Standard is applicable to the entire operation lifecycle (including exploration and planning, evaluation, construction, operation and closure). It does not apply to existing operations unless a Brownfield project is likely to result in adverse impacts to Indigenous Peoples or Vulnerable Tribal Groups.

Determining application of this Standard requires diligent research and the exercise of measured judgement in a robust screening process to confirm Indigenous People or Vulnerable Tribal Group status. If eligible, Vulnerable Tribal Groups or Indigenous Peoples may have additional rights that are recognized internationally even if National Legislations makes no separate provisions for them. Accordingly, Vedanta will implement this Technical Standard to confirm the status of any affected Vulnerable Tribal Groups or Indigenous Peoples for the applicability of this Standard, and as appropriate to put in place the necessary controls and measures required to achieve compliance with host country Laws and consistency with IFC requirements.

Vedanta Resources recognises that our projects can also create opportunities for Indigenous Peoples / Vulnerable Tribal Groups to participate in, and benefit from project-related activities that may help them fulfil their aspiration for economic and social development. Furthermore, they may play a role in sustainable development by promoting and managing activities and enterprises as partners in development. Government often plays a central role in the management of issues relating to such groups, and we will collaborate with the responsible authorities in managing the risks and impacts of their activities.

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

3. DEFINITIONS

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

Term	Definition
Vulnerable Tribal Groups (VTG) / Indigenous Peoples (IP)	
Vulnerable Tribal Groups (VTG)	<p>Vulnerable Tribal Groups or 'VTGs' is the preferred terminology for this Technical Standard and covers IPs unless otherwise stated.</p> <p>VTGs may be referred to in different countries by such terms as "Indigenous Peoples" "Aboriginals" "Vulnerable Primitive Tribal Groups" or "Indigenous Ethnic Minorities". They are generally considered to be most marginalized and vulnerable segment of population and they may be more vulnerable to impacts associated with Project development. Their inability to defend their rights to, and interest in lands and natural & cultural resources may also impact their social and cultural life. Their peculiar circumstances may require special protective measures in the event that they are adversely impacted by a project.</p> <p>The definition of VTGs may be specified in the laws of host country on this subject. The IFC's criteria for IPs are included in paragraph 5 of PS 7 and are shown below.</p> <p>There may be significant differences in the respective definitions and approaches to managing VTG / IP issues; the IFC requirements are frequently more stringent.</p> <p>Competent professionals can be useful resources to assist in the determination of VTG / IP status, ensuring the application of definitions by authorities in the country of operation, and/or in applying the IFC definition.</p>
Indigenous Peoples (IP)	<p>IFC defines Indigenous Peoples as "a distinct social and cultural group possessing the following characteristics in varying degrees:</p> <ul style="list-style-type: none"> (i) self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; (ii) collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; (iii) customary cultural, economic, social, or political institutions that are separate from those of the mainstream society or culture; or (iv) a distinct language or dialect, often different from the official language or languages of the country or region in which they reside".

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

Term	Definition
Informed Consultation and Participation (ICP) / Free Prior and Informed Consent (FPIC)	
Informed Consultation and Participation (ICP)	<p>Informed Consultation and Participation involves an in-depth exchange of views and information, and an organized and iterative consultation between the client and IP / VTG community likely to be affected by the project, leading to the Company's incorporating into their decision-making process views of the IP /VTG on matters that affect them directly, such as the proposed mitigation measures, the sharing of development benefits and opportunities, and implementation issues. It is an integral part of gaining FPIC</p>
Free Prior and Informed Consent (FPIC)	<p>There is no universally accepted definition of FPIC and it only applies to bona fide Indigenous Peoples in the 'special circumstances' described below and in clauses 13-17 of IFC PS 7 where there are:</p> <ol style="list-style-type: none"> 1) <i>Impacts on Lands and Natural Resources Subject to Traditional Ownership or Under Customary Use</i> 2) <i>Relocation of Indigenous Peoples from Lands and Natural Resources Subject to Traditional Ownership or Under Customary Use</i> 3) <i>Where significant project impacts on critical cultural heritage are unavoidable</i> <p>For the purposes of this Technical Standard, FPIC builds on and expands the process of informed consultation and participation (ICP) and will be established through good faith negotiation (GFN) between the project and the Indigenous Peoples. FPIC is both a process and an outcome; the process builds upon ICP and requires GFN.</p> <p>A project must also document (i) the mutually accepted process between the client and Affected Communities of Indigenous Peoples, and (ii) evidence of agreement between the parties as the outcome of the negotiations. FPIC does not necessarily require unanimity and may be achieved even when some individuals or groups within the community explicitly disagree (i.e. evidence of 'BCS' may be sufficient). FPIC should be viewed as a process that both allows and facilitates Affected Communities of Indigenous Peoples to build and agree upon a collective position otherwise known as collective community consent.</p>

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

Other Definitions	
Affected Communities	Local communities directly affected by the new or existing project.
Broad Community Support (BCS)	Broad Community Support is a collection of expressions by Affected Communities, through individuals or their recognized representatives, mostly from customary or political representatives such as local councils in support of the proposed business activity. BCS also applies to programs involving bona fide Indigenous Peoples / Vulnerable Tribal Groups and there may be BCS even if some individuals or groups object to the business activity. As a collection of expressions, BCS is achieved by a number of activities across the range of a project's overall stakeholder engagement. The presence of BCS can be indicated by formal negotiated agreements or through Public Hearing as mandated by the host country laws, but also through suitable indicators of ongoing and continued constructive participation of the Affected Communities in project-related dialogue and programs.
Commitment Register	A management tool used to document, track, and manage the commitments made with affected stakeholders
Critical Cultural Heritage	Consists of (i) internationally recognized heritage of communities who use, or have used within living memory such cultural heritage for long-standing cultural purposes (such as World Heritage Sites); and (ii) legally protected cultural heritage areas as per the legal framework of the host country.
Ecosystem Services	The benefits that people, including businesses, derive from ecosystems. Ecosystem services are organized into four types of services: (i) provisioning services, which are the products people obtain from ecosystems; (ii) regulating services, which are the benefits people obtain from the regulation of ecosystem processes; (iii) cultural services, which are the nonmaterial benefits people obtain from ecosystems; and (iv) supporting services, which are the natural processes that maintain the other services (IFC Performance Standard Guidance Note 6).
Good Faith Negotiation (GFN)	Good faith negotiation generally involves for each party: (i) willingness to engage in a process and availability to meet at reasonable times and frequency in ways acceptable to all parties; (ii) provision of information necessary for informed negotiation; (iii) exploration of key issues of importance; and (iv) willingness to change initial position and modify offers where possible.
Grievance	A legitimate concern, complaint or feedback raised by any stakeholder either affected or interested in company operations. Both concerns and complaints can result from either real or perceived impacts of a company's operations.
IFC (International Finance Corporation)	Member of the World Bank that finances and provides advice to private sector ventures and projects in developing countries.

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

Lands and Natural Resources Subject to Traditional Ownership or Under Customary Use	Lands and natural resources (eco-system services) that are used, occupied by, or traditionally owned by Communities of IP/ VTG. This may also include lands in some countries for which these IP / VTG may not have formal title but use of which can often be substantiated and documented.
Lifecycle	The phases of a project including exploration and planning, evaluation, operation and closure.
Operation(s)	A location or activity that is operated by a Vedanta Company and is part of the Vedanta Group. Locations could include mines, refineries, ports or transportation activities, wind farms, oil and gas development sites, offices including corporate head offices and research and development facilities.
Receptor	An entity that may be subject to either adverse or positive impact arising from the project. In the context of this document the receptor may be either environmental or social in nature.
Stakeholder	Persons or groups that are directly or indirectly affected by a project. This can refer to shareholders, lenders, employees, communities, industry and governments.
Stakeholder engagement	An umbrella term encompassing a range of activities and interactions between Vedanta and stakeholders over the life of a project that is designed to promote transparent, accountable, positive, and mutually beneficial working relationships. Stakeholder engagement includes stakeholder identification and analysis, information disclosure, communication, problem/conflict anticipation and prevention, ongoing consultation, formation of partnerships, construction of grievance resolution mechanisms, negotiated problem solving, employee involvement in project monitoring, regular reporting forums and procedures, and other related management activities.
Vedanta Company	A subsidiary of Vedanta Resources plc either fully or majority owned that has its own management structure (e.g. Hindustan Zinc Limited, Vedanta Aluminium Limited, Sterlite Industries limited, etc.)

4. PROGRAMME REQUIREMENTS

All Vedanta subsidiary companies and operations are required to follow the requirements listed below with regards to the mechanisms for identifying Affected Communities of Indigenous Peoples / Vulnerable Tribal Groups within the Area of influence that may be impacted by a proposed Vedanta activity or operations and potential or actual impacts of Vedanta operations on these communities.

4.1 Objectives

- a. To ensure that the development process fosters full respect for the dignity, human rights, aspirations, cultures and natural resource-based livelihoods of such IP / VTGs

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

- b. To avoid adverse impacts of projects on such IP / VTGs, or when avoidance is not feasible, to minimize, mitigate, or compensate for such impacts, and to provide opportunities for development benefits, in a culturally appropriate manner.
- c. To establish and maintain an ongoing relationship with such communities of affected IP / VTGs
- d. To foster good faith negotiations and informed participation of IP / VTGs when projects are to be located on traditional or customary lands under use by such communities
- e. To respect and preserve the culture, knowledge and practices of IP / VTGs

4.2 General Requirements

- a. Vedanta will strive at every stage from project screening through to execution to avoid potential adverse impacts from its activities upon Affected Communities and eligible IP / VTGs.
- b. Vedanta will apply a fair and legitimate process to identify their rights under law. Where it is confirmed that there are IP / VTGs within an area of influence, Vedanta will identify the nature and degree of the expected direct and indirect economic, social, cultural and environmental impacts upon them at all stages of the project lifecycle.
- c. Vedanta will identify all formal permitting and land use requirements that may exist and will ensure that all necessary arrangements are put in place to obtain and to ensure compliance with such requirements (*see TS 03 Land Resettlement Management*). Where formal permitting and land use requirements are not specified or are unclear with regard to lands and territories occupied or used by IP / VTGs, project / operation manager are advised to undertake and document formal processes and instances of areas of mutual agreement.
- d. All Vedanta operations shall engage and consult with IP / VTGs in a culturally appropriate manner that is planned and managed in accordance with the TS 05 Stakeholder Engagement Technical Standard.
- e. Training is to be provided for those Vedanta employees involved in dealing with issues related to IP/VTGs to enable them to execute their duties and manage their obligations in a manner consistent with this technical standard and as identified by, and in line with, the Vedanta Technical Standard TS 05 Competency, Training and Awareness. This shall include consideration of the requirements of the Vedanta policy on Stakeholder Engagement (see TS 05 Stakeholder Engagement Technical Standard) and in addition the project will provide context specific cultural awareness training dependent on the level of exposure to IP / VTGs and responsibilities of employees.
- f. Those Vedanta Companies with Affected Communities of IP/VTG will incorporate opportunities for participation in stakeholder engagement and promote sustainable benefits for IP / VTGs in accordance with the TS 19 Community Investment Management.

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

4.3 Stakeholder Engagement

All stakeholder engagement throughout the project life cycle with IP / VTGs will be planned and managed in accordance with TS05 Stakeholder Engagement Technical Standard in a culturally appropriate manner with IP / VTGs themselves and / or their legitimate representatives

4.4 Risk Assessment (or Project Concept)

- a) It is good practice to identify as early as possible any potential IP / VTGs and where possible to identify any potential risks and constraints to the project. The process for identifying all stakeholders is outlined in *TS 05 Stakeholder Engagement* and the identification process will meet the screening requirements as set out in the Vedanta Management Standard MS03 *New Projects, Planning Processes and Site Closure*, Management Standard MS08 *Acquisitions, Divestment and Joint Venture due Diligence* and the Technical Standard *TS08 Conducting ESIA's to International Standards*.
- b) The Project should have a comprehensive understanding of Host Country laws applicable to the VTGs, including land tenure and other rights.
- c) The project will undertake an initial screening (use checklist in TS 8) to determine whether there are any potential IP / VTG and confirming their IP / VTG status.
- d) If it is suspected or confirmed that IP / VTGs are present, the project manager is to inform the Chief Executive Officer (CEO) or other delegated authority and make detailed verification checks, including consultation with stakeholders, appropriate experts and relevant authorities. The Chief Executive Officer (CEO) or other delegated authority will review the findings of the determination process and request clarification or further research as necessary.
 - i. In the event of positive determination, IP / VTGs will be treated in accordance with host country law and this Technical Standard - including the FPIC principle where no regulatory consultative process exists for such a group and the special circumstances outlined herein are confirmed.
 - ii. If however the affected community is not considered to satisfy the IP / VTG definition / criteria, the affected community will still be eligible for project benefits in line with the benefits granted to other affect project communities.
- e) Should a decision with regard to risk assessment be disputed by any project affected community, Vedanta will offer to review the decision and may choose to take expert guidance including the involvement of government agencies as may be required.

4.5 Exploration

- a) All activities concerning permitting land use will be conducted in accordance with *TS 03 Land Resettlement Management*.
- b) While engagements with the local communities through various platforms of deliberations will be held by Vedanta to determine customary ownership and deliberate on other such critical issues, access to land for mining or industrial projects will be resolved in accordance with the prevailing regulations for mining and exploration in the host country and as per the land acquisition mechanism respectively.
- c) Project managers are required to obtain evidence of consultation exercises / FPIC to have been conducted with the IP / VTGs during exploration if those activities include:

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

- i. Impacts on Lands and Natural Resources subject to Traditional Ownership or Under Customary Use (see TS 03 Land and Resettlement Management);
- ii. Inability to avoid through Project design, any relocation of IP / VTGs from Lands and Natural Resources subject to Traditional Ownership or Under Customary Use (see TS Land and Resettlement Management); and
- iii. Any unavoidable project impacts on Critical Cultural Heritage that are essential to the identity and/or cultural, ceremonial, or spiritual aspects of IP / VTGs (see TS 01 Cultural Heritage for further details).

Evidence that ICP/ FPIC has been followed requires documentation such as i) mutually accepted engagement and negotiation process (such as a stakeholder engagement strategy) between the Vedanta and IP / VTGs, ii) evidence of agreement between the parties regarding the outcome of the negotiation and iii) Photographs and video footage of such consultation exercises, as appropriate. This may be in the form of a signed memorandum of understanding, approved meeting notes, or other documented evidence of agreement. Key documents normally prepared as part of ICP/ FPIC often include:

- A framework document containing the principles of engagement, project design and implementation process as it relates to the communities, and principles for obtaining ICP/FPIC.
- A IP / VTG Development Plan, or similar action plan that includes baseline information; analysis of impacts, risks and opportunities (from the ESIA); results of consultation and future engagement plans; mitigation and enhancement plans; community-based natural resource management; a grievance mechanism; schedule, roles and responsibilities and allocation of resources; and monitoring and evaluation procedures.
- An ICP/ FPIC agreement or document reflecting the mutual consent to the process and proposed actions.

ICP/ FPIC does not require unanimous support from all members of IP / VTGs; rather, an ICP/ FPIC agreement captures the IP / VTGs' broad community support or agreement on the legitimacy of the engagement process and the decisions made. Stakeholder mapping exercises and engagement within the IP / VTGs should be used to determine appropriate representatives for negotiation, support and agreement, as this will vary between communities and groups. This process should be presented as part of ICP/ FPIC documentation.

- d) The nature and frequency of employee engagement with IP / VTGs during exploration will vary from project to project. All engagement will be planned and managed in accordance with *TS05 Stakeholder Engagement Technical Standard*.
- e) Interactions will be documented (see *TS 05 Stakeholder Engagement*) for continuity (to allow for rotation or turnover of key staff) and for the protection and satisfaction of both the community and the company.
- f) A Grievance mechanism will be established as early as possible in the project cycle (as per *TS 04 Grievance Mechanisms* and *TS05 Stakeholder Engagement*).
- g) A commitment register will be established as early as possible to ensure all commitments made by Vedanta are recorded and fulfilled.

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

4.6 Feasibility/Project Design

- a) A full ESIA will be undertaken after confirmation that the project is viable (see *TS 08 Conducting ESIA to International Standards*).
- b) The scope of the assessment will depend on the nature and scale of the project. The steps in the ESIA process as they relate to IP / VTGs are outlined in the following sections.

4.6.1 ESIA - Scoping Exercise

- a) A scoping exercise will be undertaken for all new potential projects (see *TS 08 Conducting ESIA to International Standards*).
- b) During the scoping exercise the external expert(s) who will undertake the ESIA will ensure the following:
 - Confirm the status where possible of all potentially impacted IP / VTGs within the project's defined area of influence. The process will build upon information obtained from previous investigations (such as human rights due diligence) and is further outlined in *TS 05 Stakeholder Engagement*;
 - Identify potential significant impacts of the project upon those IP / VTGs that will require further investigation and assessment; and
 - Suggest means whereby the project can achieve the ICP /FPIC, as applicable of those potentially impacted IP /VTGs and appropriate mitigation strategies

4.6.2 ESIA - Indigenous Peoples / Vulnerable Tribal Group Consent & Participation

For projects with significant adverse impacts to IP / VTGs, the project is required to engage them in a process of Informed Consultation and Participation (ICP) and in certain circumstances the project is required to obtain their FPIC (i.e. where triggered by any of the situations listed in 4.5 c) i / ii / iii above).

- a) The project will undertake an engagement process with the IP / VTGs while undertaking an ESIA process (*See TS 05 Stakeholder Engagement*).
- b) All specialists used in the ESIA process associated with IP / VTGs must be suitably qualified and experienced.
- c) The ICP process will quantify the degree of likely Broad Community Support and/or opposition to the proposed project. The process should be documented and should address any relevant gender issues amongst those people. The IP / VTGs will be informed about how their concerns will be dealt with during the project.

In all other instances where IP / VTGs may experience impacts, the project is expected to achieve and maintain Broad Community Support (BCS). BCS is a collection of expressions by Affected Communities including IP / VTGs in support of the proposed business activity; and can be indicated by dialogue or negotiated agreements, but also through ongoing and continued constructive participation of the IP / VTGs in project-related dialogue and programs. The Project will need to maintain documentation/ records of community engagement, leading to broad community support for the project within the IP / VTGs.

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

4.6.3 ESIA - Baseline Data Collection

- a) This is the stage at which baseline data is collected on current (i.e. pre-development) environmental and social conditions. Where IP / VTGs have been identified as potential Receptors to project activities, additional data collection as required will be undertaken.
- b) Consultations with IP / VTG to collect baseline data will be planned and managed in accordance with TS05 Stakeholder Engagement Technical Standard.
- c) The final product will include the requirements outlined in TS 08 Conducting ESIA to International Standards.

4.6.4 ESIA - Assessing Impacts

The risks and impacts identification process for IP / VTGs will adopt the same form as that for the overarching ESIA process (see TS 08 Conducting ESIA to International Standards).

4.6.5 ESIA - Indigenous Peoples / Vulnerable Tribal Group Development Plan

- a) Where alternatives have been explored and adverse impacts to IP / VTGs are unavoidable, the project will minimize, restore, and/or compensate for these impacts as required. The proposed actions will be developed with the ICP of the IP / VTGs and contained in a time-bound IP / Vulnerable Tribal group Development Plan (IP / VTGDP)
- b) An IP / VTGDP will detail the impact management arrangements (where impact cannot be avoided), an action plan for implementing the mitigation and management arrangements and any necessary monitoring requirements.
- c) The IP / VTGDP will detail arrangements for the periodic internal and external reporting (as required) of the impact management activities.
- d) Execution of the IPDP / VTG DP and the development of additional sub-plans and procedures will be a project commitment of Vedanta and its contractors.
- e) The plan will be a project specific and practical document that forms the basic guidance for implementing this Technical Standard in the context of a particular project or operational unit that is owned or operated by Vedanta.

4.6.6 ESIA - Disclosure

- a) The information gathered during each stage of the assessment as well as the IPDP / VTGDP can be directly included in the ESIA and any related assessments or can be captured in a standalone report that is appended to the ESIA disclosure report.
- b) Reporting considerations included in *TS08 Conducting ESIA to International Standards* will be referred to.

4.7 Construction/Operation

Vedanta will create, implement and maintain arrangements to keep the IP / VTGDP updated and adjusted as the Project progresses, to ensure the following:

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

- *That effective and meaningful engagement* with such groups throughout the lifetime of the Project;
- Identified impacts are monitored;
- Any additional impacts resulting from the implementation of the IP / VTGDP are observed and managed;
- Compliance with relevant standards is maintained; and
- The effectiveness of management and mitigation measures are confirmed/and or reviewed to ensure improvements to Project design and execution.

4.8 Closure

All planning and management of closure activities will be undertaken according to the Vedanta Technical Standard *TS17 Site Closure* with a view to minimising any post decommissioning / residual impacts on IP / VTGs.

5. ROLES AND RESPONSIBILITIES

Vedanta Resources, subsidiaries, businesses, operations and sites will ensure that roles and responsibilities for implementing and complying with this Standard are allocated. Key responsibilities will be included in job descriptions, procedures and/or other appropriate documentation.

5.1 Vedanta Responsibilities where Government is responsible for managing IP / VTG issues

In some jurisdictions/ Host Countries, the Government has statutory responsibilities for the identification, consultation and management of IP / VTG issues. Where this applies, Vedanta will collaborate, support and participate in the Government Programmes in order to achieve the goals of this Technical Standard. This may involve capacity building or training with Government Agencies, making Project Information available in a suitable format, offering practical assistance with logistics and consultation processes, and monitoring outcomes.

Where Host Country legislations potentially do not meet the requirements of this Technical Standard or the IFC Performance Standard 7, Vedanta will undertake a gap analysis to identify any issues that may require an intervention by Vedanta to achieve outcomes that are consistent with the objectives of this technical standard.

The Project Manager will endeavour to document the Government-managed Programmes and the entitlements of the IP / VTGs and the measures needed to bridge any gaps identified in 5.2. Where feasible, continuing Government participation in these further actions will be encouraged

5.2 Non-captive mines

Where feed stock is acquired from any non-captive mines, Vedanta will seek reasonable assurances on environmental and / or social performance from the operator(s) in accordance with TS6 (Supplier and Contractor Management). The ability of Vedanta to address these risks will depend upon the level of management control or influence over its primary suppliers.

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

6. COMPLIANCE AND PERFORMANCE

Each operation will ensure they comply with the requirements of this Standard. Performance against meeting the requirements of this Standard will be periodically assessed, documented and, where required, reported to Vedanta Group. The evaluation of performance will include:

- All new projects that have any IP / VTGs within their area of influence and details of how they may be affected.
- An assessment of significant impacts to IP / VTGs (where such status has been confirmed) has been undertaken.
- Evidence of the adoption of the mitigation hierarchy is available to support the proposed impacts management arrangements.
- The process of information disclosure, consultation and informed participation undertaken during the assessment is described within the documentation. Where FPIC is applicable, the assessment documentation describes the resolution of issues, Negotiation Process and any documented agreements that provide evidence of FPIC.
- An IP / VTG Development Plan is developed and implemented for all projects where significant adverse impacts to Affected Communities of Indigenous people are unavoidable.
- All management and monitoring arrangements are actively maintained and implemented and documentary evidence kept to confirm ongoing effectiveness of arrangements to manage IP / VTG issues.

7. SUPPORTING INFORMATION

Reference	Description
ICMM (International Council of Mining and Metals) <i>Good Practice Guide: Indigenous Peoples and Mining</i>	This Guide aims to assist companies in achieving constructive relationships with Indigenous Peoples. The Guide highlights good practice principles, discusses the challenges in applying these principles at the operational level and provides real-world examples of how mining projects have addressed these challenges.
International Finance Corporation Performance Standards (including PS7 Indigenous Peoples) and Guidance Notes	The IFC has published a Performance Standard (PS07) on Indigenous Peoples that set out IFC requirements in relation to this subject. The Guidance Notes direct the implementation of the full range of performance standards including PS07. These are available on the website. The guidance has been updated and revised versions are now available. http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards

Technical Standard - Indigenous Peoples / Vulnerable Tribal Groups

8. REVIEW

This Technical Standard will be periodically audited and reviewed to determine its accuracy and relevance with regard to legislation, education, training and technological changes. In all other circumstances, it will be reviewed no later than 12 months since the previous review.

9. RELATED DOCUMENTATION

A summary of the references and supporting documents relevant to this document is provided in the following table.

Doc. Ref.	Document name
	Vedanta Code of Conduct
MS 03	Competency, Training and Awareness
MS 06	New Projects, Planning Processes and Site Closure
MS 08	Acquisitions, Divestment and Joint Venture Due Diligence
TS 01	Cultural Heritage
TS 03	Land and Resettlement Management
TS 04	Grievance Mechanisms
TS 05	Stakeholder Engagement
TS 06	Supplier and Contractor Management
TS 08	Conducting ESIA's to International Standards

Purpose

The purpose of this document is to standardize Contaminated Site Management practice and strengthen environmental management practices through Preliminary Site Assessment at Vedanta in order to minimize environment related business risks. This document should be reviewed in conjunction with the Vedanta Contaminated Site Management (CSM) guidance note (GN 15). It is applicable to all Vedanta owned and managed operations over the life cycle of the asset (or 'Site').

Activities

The progression of the decision for conducting CSM activities shall be in line with flowcharts and conditions defined in Figure 1. Every business will undertake following process towards identification and management of contaminated sites:

Preliminary Assessment

- Undertake a Preliminary Site Assessment (PSA) annually by a competent Vedanta employee to identify potential environmental concerns based on available information, site interviews and evidence observed at the Site through standardized process. For example, using checklist presented in Annex A1 of GN.
- The Site management shall review PSA findings and undertake corrective actions for improving environmental management systems to mitigate identified current and potential future risks.
- Perform Phase I Environment Site Assessment (ESA) with help of third party environment specialist in-line with decision matrix defined in Figure 1 in case:
 - PSA indicates a requirement of further investigation due to potential of contamination at the site;
 - Any greenfield and/ or Brownfield acquisition/ divestment activity;
 - At a minimum, once every four (4) years.

Site Characterization and Risk Assessment

- Undertake Phase II ESA with help of third party environment specialist and in-line with decision matrix and conditions defined in Figure 1, in case the Phase I ESA identifies the likely presence of contamination
- Undertake a risk assessment using third party environmental specialists in-line with the process defined in the Figure 1 to identify potential source,

pathways and receptors and to establish potential impact.

- Undertake remedial investigation and refine the conceptual model with help of third party environment specialist if risk is established in Phase II ESA.

Remediation and Monitoring

- Establish remediation objectives on the basis of the nature and extent of contamination and risk to the receptors.
- Evaluate available technologies and cost for remediation options.
- Select suitable remediation options based on the remediation criteria effectiveness, site condition, stakeholder considerations, cost implications and time requirements
- Implement, monitor and verify the remediation as per the Remedial Action Plan (RAP).
- Complete remediation measures and verify compliance with defined objectives in consultation with relevant authorities or stakeholders, as required.

Documentation

The following documentation shall be maintained at the site, as relevant.

- PSA Checklist
- Phase I ESA Report
- Phase II ESA Report
- Remedial Investigation Report
- Remediation Action Plan (RAP)
- Remediation Design Report
- Remediation Completion Report

Review

Review outcome of the PSA, Site characterization and remediation exercise at Business and Corporate EXCO.



VEDANTA CONTAMINATED SITE MANAGEMENT TECHNICAL STANDARDS

