VPS Manual

version 1.0 – November/2022

Internal use - Developed by Brand & Advertising Management

Content

Message from the CEO 04
VPS 05

Leadership
1. Leadership Behaviours and Commitment 10
2. People Management 12
3. Organizational Design 13

Technical
4. Risk Perception and Risk Management 15
5. Health, Safety, Environment and Community (HSEC) 16
6. Projects and Construction 19
7. Operations 21
8. Maintenance 23
9. Change Management 25
10. Systems and Technology 26
11. Supplies and Services 27
12. Emergency, Crisis and Business Continuity Plans 28

Method
13. Strategy Deployment 31
14. Routine Management 32
15. Processes and Standardization 33
16. Problem Solving and Continuous Improvement 34
17. Assessment of Management System and Results 35

How to use this guide: Each chapter presents a dimension of VPS, its elements, and minimum requirements. We suggest that you always have it handy and use it to address questions and guide your team.

Photographer: Ricardo Teles

Learning together

Our Purpose

We exist to improve life and transform the future. **Together.**

WHY do we exist?

Values

- **Life** matters most.
- Act with **integrity.**
- Value **the people who build our company.**
- Make it **happen.**
- Respect our **planet and communities.**

WHAT do we believe **IN?**

Key Behaviours

- **Obsession with safety and risk management.**
- **Open and transparent dialogue.**
- **Empowerment with accountability.**
- **Ownership for the whole.**
- **Active listening and engagement with society.**

HOW do we act?

Our Levers

- **Safety**
- **VPS**
- **People**
- **Innovation**
- **Sustainability**

Our Ambitions

A great company recognized by society for being:

- Benchmark in **safety.**
- Best in class **reliable** operator.
- **Talent** driven organization.
- Leader in **sustainable** mining.
- Reference in **creating and sharing value.**

WHAT do we look for?

VALE

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

VPS

Message from the CEO

We are on a journey to become an increasingly **safe and reliable** company and our management model, the VPS, is a fundamental lever for our Cultural Transformation. With it, we guarantee methods and processes to constantly evolve, with people at the center of decision making.

The VPS needs to be part of everyone's routine in the countries where we operate, both in the operational and administrative areas, and this manual is intended to guide us in implementing our management model. It includes the three dimensions – Leadership, Technical and Method – and the 17 elements, as well as the minimum requirements that must be followed at Vale globally.

As part of our evolution, some items in the Manual have been revised to refect our purpose, values, key behaviours and ambitions. We have also adjusted some requirements and items based on experiences and lessons learned and feedback received from you.

Each of us has a fundamental role as a change agent to contribute to the consolidation of VPS in our company. I invite you to get to know the VPS Manual, which reinforces our way of working, and to consult it whenever necessary.

Focusing on the **basics well done**, an obsession with safety and risk management, and operational discipline will be key to **improving lives and transforming the future. Together.**

Eduardo Bartolomeo

#transformtogether

Photographer: Arthur Toledo

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

VPS

The Vale's Management Model

We are over **100,000** employees spread across over **30 countries**. And while we belong to such diverse businesses and cultures, we have a unique focus as a company: **ensuring safe, people-centric operations.**

And VPS is the path we must take to be a **safe and reliable company**. It strengthens Vale's organizational culture through people development, standardization of best practices, operational discipline and routine compliance.

It is a model in constant evolution that consolidates and continuously improves in its approach, methods, techniques and tools used in accordance with the lessons learned.

Its application is mandatory: it must be adopted globally in the operational and administrative areas.

Vale's Management Model, known as **VPS (Vale Production System)** is focused on results, and provides for the in-depth and comprehensive implementation of policies and practices to enable safe and environmentally responsible operations and ensure asset integrity.

VPS is composed by 3 dimensions: **Leadership, Technical, Method**, that have 17 elements. Each element of this guide presents minimum requirements for compliance.

Photographer: Marcelo Coelho

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment
2. People Management
3. Organizational Design

Technical

4. Risk Perception and Risk Management
5. Health, Safety, Environment and Community (HSEC)
6. Projects and Construction
7. Operations
8. Maintenance
9. Change Management
10. Systems and Technology
11. Supplies and Services
12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment
14. Routine Management
15. Processes and Standardizationo
16. Problem Solving and Continuous Improvement
17. Assessment of Management System and Results

VPS

Dimensions

Policies, guidelines and technical requirements of processes for managing assets and dealing with risks inherent to our business.

Routines, methodologies and structured management tools aimed at achieving and improving results.

Group of leadership practices expected to reinforce key behaviors and shape organizational culture.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment
2. People Management
3. Organizational Design

Technical

4. Risk Perception and Risk Management
5. Health, Safety, Environment and Community (HSEC)
6. Projects and Construction
7. Operations
8. Maintenance
9. Change Management
10. Systems and Technology
11. Supplies and Services
12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment
14. Routine Management
15. Processes and Standardizationo
16. Problem Solving and Continuous Improvement
17. Assessment of Management System and Results

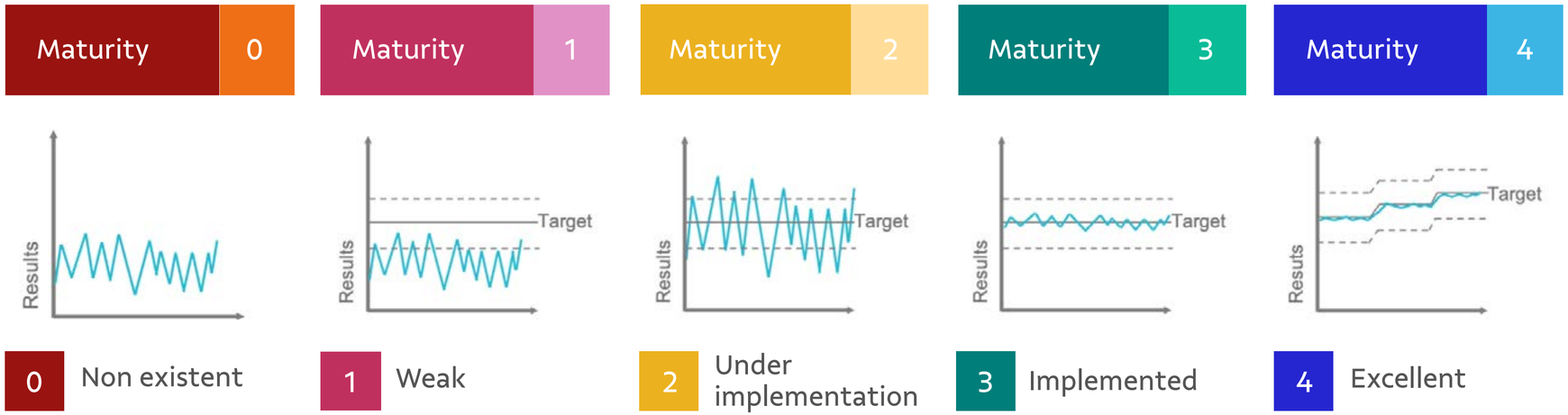
VPS

Maturity Curve

The VPS maturity curve helps people to understand which actions and attitude changes must occur for the evolution of the implementation of the Management Model.

It was inspired by Dupont's Bradley Curve, and demonstrates that a successful safety culture empowers people while promoting sustainable results in Health, Safety, Environment, Communities and Risks, Quality, Productivity and Costs.

The VPS maturity curve has 5 stages:



Aspect	Maturity 0	Maturity 1	Maturity 2	Maturity 3	Maturity 4
Culture	Reactive	Reactive	Dependent	Independent	Interdependent
Processes	Non existent	Punctial / Instable	Under implementation / Instable	Implemented / Stable	Systematized / Stable
Results	No reference	Below target	Instable	On target	Continuously improved

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment
2. People Management
3. Organizational Design

Technical

4. Risk Perception and Risk Management
5. Health, Safety, Environment and Community (HSEC)
6. Projects and Construction
7. Operations
8. Maintenance
9. Change Management
10. Systems and Technology
11. Supplies and Services
12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment
14. Routine Management
15. Processes and Standardizationo
16. Problem Solving and Continuous Improvement
17. Assessment of Management System and Results

VPS

Implementation will be successful when:

1 Our employees start the day with a clear sense of purpose and end the day safe with a sense of accomplishment.

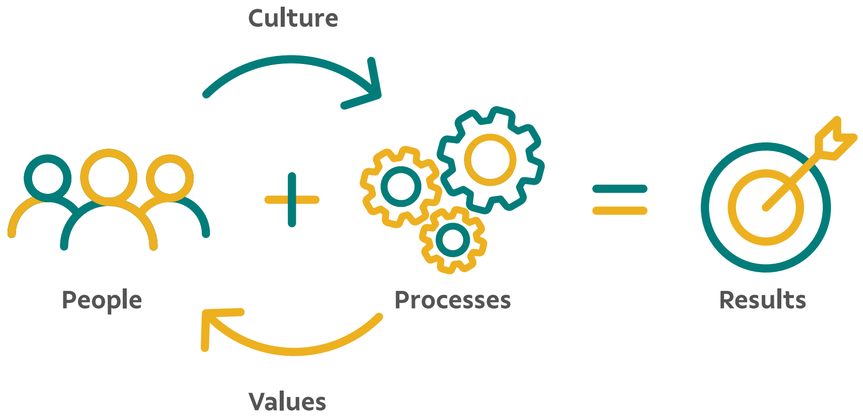
2 The problems were visible and people engaged in solving them.

3 Our assets were operated and maintained with excellence.

4 Standards and processes have been met with operational discipline.

5 We have a good reputation within our communities, suppliers and customers.

If you left an item out, take the time to identify what happened and define an action plan to include it in your routine.



Photographer: Ricardo Teles

Leadership

1. Leadership Behaviours and Commitment | 2. People Management | 3. Organizational Design

What is the role of the leader in shaping Vale's organizational culture?
The elements of the Leadership dimension establish the leadership practices expected to reinforce key behaviours and shape organizational culture.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

VPS – Leadership

1. Leadership behaviours and commitment

Leaders experience and promote values and key behaviors in all their interactions, respecting local legislation, the ethical principles of the Code of Conduct, the rules and internal requirements. This way, we can express our Purpose, which is to improve life and transform the future. Together.

1.1 – Our Values

Life matters most:
We believe that life is more important than material results and goods, and we incorporate this vision in our business decisions.

Act with Integrity:
We build relationships of trust and we promote open and transparent communication, acting with respect and integrity.

Value the people who build our Company:
We trust people and together we build a work environment admired by all. We seek lifelong learning and personal growth.

Make it happen:
We are engaged, responsible and disciplined about generating results and overcoming challenges. We act in pursuit of the excellence, being sustainable and reliable.

Respect our planet and communities:
We are committed to economic, social and environmental development in our business decisions.

1.2 – Key behaviours

Obsession with safety and risk management:

• Put people's safety and life before assets and other results when bringing issues up and when making decisions;

• Identify, expose and manage risks for all stakeholders associated with activities;

• Actively engage in the dialogue about safety dilemmas, operational themes and signs of disagreementa;

• Demonstrate consistency and discipline in assessing and addressing safety risks;

• Show visible commitment to safety and be perceived as such through measurable actions.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

VPS – Leadership

1. Leadership behaviours and commitment

Open and transparent dialogue:

- Expose problems and learn from mistakes;
- Inquire and show genuine interest in the answers;
- Encourage everyone to express ideas and disagreements;
- Communicate in straightforward way with a positive perspective;
- Include and encourage people with diverse backgrounds and views.

Empowerment with accountability:

- Seek lifelong learning and development, encouraging learning with others;
- Make clear requests, commit to actions, hold others to account;
- Take full responsibility to deliver on commitments;
- Demonstrate ownership of Vale's Management System (VPS);
- Provide continuous and constructive feedback.

Ownership for the whole:

- Work in collaboration to generate better results;
- Anticipate the impact of their actions on other parts of the company;
- Use the company's resources in its best interests;
- Challenge the status quo;
- Face and make hard decisions.

Active listening and engagement with society:

- Seek for constant input from external stakeholders;
- Listen to stakeholders with curiosity and empathy;
- Demonstrate humility and avoid assumptions about what is best for communities;
- Make decisions and act in a way that shows an understanding of our impact on our communities;
- Prioritize sustainable solutions with a sense of urgency.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

2. People Management

Leaders are responsible for selecting, training, developing, recognizing, retaining and evaluating people, promoting the engagement in the team.

2.1 – Promote high performance and meritocracy

• Assess and differentiate people by their level of contribution to results;

• Treat basic performance cases;

• Recognizes people for applying key behaviors in how achieve results.

2.2 – Select and develop people

• Promote diversity in the composition of their team;

• Disclose with transparency the open positions in their area;

• Promote the movement of people between different areas and businesses;

• Ensure a positive experience for new employees during the Onboarding process, by taking care of their first experience;

• Ensure the completion of all mandatory training, in accordance with the employees' work functions;

• Is an example of self-development, actively engaging in formal and informal learning actions and being the protagonist of their own career;

• Develop people by encouraging participation in courses, coaching activities, mentoring, projects, communities of practice, OJT (on the job training), among other initiatives;

• Manage the talents in their area, promoting lateral movements and career progression, opening vacancies in entry-level programs and developing successors;

• Practice and encourage continuous feedback at all levels of the organization.

2.3 – Work environment

Create and maintain an inclusive and safe work environment that promotes the learning together culture, works beyond the boundaries of the team/area and manage people always seeking to enhance their skills;

• Encourage flexible and more interactive ways of working in a environment with respect to individualities where people can truly be their authentic selves;

• Create an environment of continuous learning, which values people's diverse experiences, promoting collaboration and empowerment;

• Create a safe work environment for interpersonal risks in which people feel able to express their ideas, questions or concerns without fear of expressing their opinions and points of view because they can be labeled or discriminated against.

• Encourages people to always make decisions ethically and responsibly, based on Vale's Code of Conduct.

2.4 – Engagement

Create and maintain a high level of engagement within the team to learn together and achieve our purpose.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

3. Organizational Design

Leaders are responsible for ensuring that the organizational structure is respected in accordance with drawing and dimensioning guidelines, with the scope and responsibilities of the roles defined to fulfill their deliveries with health, safety and risk management.

3.1 – Governance

Follow the pre-established governance for any changes in the organizational design, considering the involvement of the second lines of defense experts, when applicable.

3.2 – Span of control

Indicate any need for evolution of the organizational design ensuring that there are no gaps or overlapping responsibilities, following the number of people dimensioned for the team (span of control) and recommended hierarchical levels.

3.3 – Total Headcount

Know and monitor their own organizational structure, ensuring that it is in accordance with the real need of the area and business without being created function to a certain person.

3.4 – Lines of defense

Ensure that the area's performance is guided by the respective line of defense it represents, respecting the roles and responsibilities of the other lines to which they relate.

**** The three lines of defense model defines the relationship between different areas and hierarchies of the company and how responsibilities are divided in risk management:***

1st: directly responsible for identifying, evaluating, treating, monitoring and managing their risk events in an integrated manner.

2nd: Supervise and support the work of the 1st line of defense, providing training and instrumentation for risk management.

3rd: carry out, observing their respective areas of operation, assessments, inspections, through the execution of control test, risk analysis and investigation of complaints, providing unbiased assurance, including on the effectiveness of risk management, internal controls and compliance.

Photographer: Ricardo Teles

Technical

4. Risk Perception and Risk Management | 5. Health, Safety, Environment and Community (HSEC)
6. Projects and Construction | 7. Operations | 8. Maintenance | 9. Change Management
10. Systems and Technology | 11. Supplies and Services | 12. Emergency, Crisis and Business Continuity Plans

How to ensure safe operations with sustainable results?
The technical elements establish common policies, guidelines and technical process requirements to manage assets and address risks inherent to our business.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

4. Risk Perception and Risk Management

Vale identifies hazards and manages the risks associated with its activities, through the model of Three lines of defense*, avoiding or mitigating any potential impact across the organization. These impacts are related to safety, health, environment, society, reputation, or human rights.

A empresa busca implementar as melhores práticas de segurança das The company seeks to implement the best practices in people's safety, human rights and sustainability, considering the guidelines and standards defined by the 2nd lines of specialist defenses (such as Operational Risks, Geotechnics, among others), which must be replicated throughout the organization.

4.1 – Governance

Vale's knowledge and application of Risk Governance is refected in roles and responsibilities.

4.2 – Identification

The main hazards and risks are identified and periodically reviewed, considering external and internal sources, market requirements, similar operations and applicability in different areas.

4.3 – Registration and update

The identified risks are recorded and kept up to date in the risk management system defined by Vale with all information completed within the established period, in accordance with the current governance.

4.4 – Controls, indicators and action plans

Registered risks have appropriate controls, indicators and action plans to ensure prevention and mitigation measures are in place.

4.5 – Risk management

The risk management process and its results are monitored and communicated through mechanisms appropriate to the required levels of the organization, in accordance with current governance.

** See definition on page 13.*

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

5. Health, safety, environment and communities (HSEC)

The health, safety, environment and communities management considers the impacts, the risks and the legal requirements related to Vale's activities, and sets proper criteria to ensure safety, defining engineering or administrative measures and controls for our processes.

The company manages the impacts and the risks that operations offer to the communities and promotes positive social legacy, supported by the relationships with the stakeholders and guided by respect for the human rights.

5.1 – Work, Cleanliness and Comfort conditions

Vale´s operations and other facilities, including projects, ensure proper and sustainable work conditions, keeping safety standards.

5.2 – Ergonomics, Occupational Hygiene and Fatigue

Technical criteria are adopted to correctly identify, manage and reduce employee exposure to unhealthy environments, repetitive work and stations that are ergonomically inadequate.

5.3 – Critical Activity Requirements (RAC)

Operating controls and procedures for the Critical Activity Requirements (CAR) are defined and implemented to mitigate the risks associated with the task execution. Critical Activity Requirements for all Vale are:

CAR 1 – Working at Heights;

CAR 2 – Light Motor Vehicles;

CAR 3 – Mobile Equipment Operation;

CAR 4 – Lockout/Tagout and No Power;

CAR 5 – Lifting of Loads;

CAR 6 – Confined Spaces;

CAR 7 – Machine Guarding;

CAR 8 – Ground Stability;

CAR 9 – Explosives;

CAR 10 – Working with Electricity;

CAR 11 – Molten Metal.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

5. Health, safety, environment and communities (HSEC)

5.4 – Job Safety Analysis (JSA)

All activities are described in procedures or are accompanied by Job Safety Analysis (JSA).

5.5 – Safe Work Permit (SWP)

A Safe Work Permit process for risk assessment and elimination is implemented.

5.6 – Health and Wellness

Programs implemented to identify, assess and handle risks in our operations which can potentially affect our employees´ or contractors´ health, including:

Occupational health assessments; appropriate protection and prevention measures; diagnosis, analysis and prevention; record and review of healthrelated data; health and welfare promotion.

5.7 – PPE/CPE

The use of Personal and Collective protective equipment (PPE/CPE) is specified and required for all employees, contractors and visitors.

5.8 – Management of Change

Changes in processes or equipment are analyzed and approved considering impacts on health, safety, environment and communities, according to a change management process.

5.9 – Communication, Participation and Consultation

All units have a Safety And Environment and Communities Committee led by the local management, and our employees regularly participate in meetings to express ideas and address deviations.

5.10 – HSEC inspections

Our leaders conduct HSEC inspections and assessments with the purpose to detect the conformities with the internal and legal requirements, and also monitor the results and the execution of the respective corrective actions.

5.11 – Safe Behavior

Employees and contractors identify and help to eliminate the risks of their activities proactively. To reduce the risk of incidents, they are engaged and committed to safe behavior and do not tolerate risk behaviors from their coworkers. Unsafe behaviors and risk conditions are recorded, analyzed and treated.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

5. Health, safety, environment and communities (HSEC)

5.12 – Event Report and Investigation

A process of reporting and investigating events with loss, events with no loss and non-conformities is implemented; it is part of Vale's culture and is encouraged and valued by the leadership.

5.13 – Chemicals

Chemical products are used safely, adopting specific controls for acquisition, transport, storage, handling and use, in order to mitigate or eliminate impacts to health and the environment.

5.14 – Environment

Manage the environmental aspects of all processes and activities. Controlling and communicating them efficiently is fundamental for prevention, mitigation and compensation of environmental impacts. Thus, knowing and meeting the legal requirements, the technical requirements and the internal norms, as well as the obligations and the commitments defined in the environmental permits and authorizations, guide us towards effective environmental management.

5.15 – Human Rights

Human Rights are respected and promoted within projects and operations, in the corporate areas, activities, partnerships and in the production chain, in the regions where we are present.

5.16 – Vale's Social Performance

The relationship with the communities is part of Vale's social performance model, built and effective through the management of the processes listed below, for which normative documents are established and spread. The risks identified in each process are managed according to the Risk Management technical element.

- Social-economic risks and impacts;
- Community safety;
- Resettlement;
- Relationship with local communities;
- Relationship with indigenous peoples and traditional communities;
- Support for regional development;
- Socioenvironmental Investments.

5.17 – Listening and Response Mechanism

Interactions (compliments, suggestions, information / questions, requests, complaints and allegations) made by the stakeholders are captured, registered, treated, responded and monitored/assessed according to Vale´s Listening and Response Mechanism, which is a formal process for global interactions management.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

6. Projects and Constructions

In order to ensure the correct allocation of resources, Vale prioritizes, develops and executes projects and constructions according to technical and business processes, applying the best market practices, and achieves, through a multidisciplinary approach, safe and sustainable operations, with predictability and competitiveness.

6.1 – Portfolio

The portfolio is prioritized on a multi-year basis, guided by the expected benefits and aligned with the company's strategic business and financial guidelines.

6.2 – Scope

The projects scope is developed based on technical and business requirements, with changes being evaluated and controlled to meet the project's assumptions.

6.3 – Engineering

The engineering is developed seeking optimization of technical solutions, employment of internal and external technical requirements, with a focus on constructive feasibility, sustainability and competitiveness, in accordance with normative standards*.

6.4 – Planning

The schedule refiects the main activities, durations, milestones and sequencing of project execution.

6.5 – Budget

The budget is based on the engineering design, the project schedule and the construction and procurement strategies.

6.6 – Construction

The construction is planned, executed and controlled to meet the project deliverables, with safety of people and assets.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

6. Projects and Constructions

6.7 – Completion

At the end of each project phase, documents and obligations are transferred. In addition, a survey of lessons learned is carried out.

The projects are delivered according to the scope, the deadline, and the estimated budget, with calculated benefits and aligned with the assumptions established in the normative standards*.

6.8 – Deliveries and Maturity

In each phase, the team develops the expected deliverables and, at the end of the phase, they are submitted to an assessment for decision making regarding the next steps.

6.9 – Risks

The risk analysis and integrated management aims to identify the risks related to the achievement of the project goals (cost and deadline). The risk identification is carried out by a multidisciplinary team since the conceptual design and it is continuously monitored.

6.10 – Operational Readiness

Representatives of the operational areas participate during the entire life cycle of projects, since the development, aiming to ensure that all requirements are implemented in the execution and are delivered to the operation, which, upon receiving the project, evaluates it and gives final acceptance.

6.11 – Quality

Quality assurance processes ensure that the facilities and materials received meet project requirements and specifications and the construction complies with applicable standards.

** (6.7) normative standards: asset management, geotec, HSEC etc*

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

7. Operations

Vale operates its facilities within standards, parameters, rules and legal requirements, with focus on the safety of people and assets, within the reliability standards.

7.1 – Integrated Production Plan

The integrated planning is elaborated and deployed considering risks and opportunities, so that the information necessary to direct the execution of the routine happens in the correct mode and on time, achieving the result and performance of the assets.

7.2 – Asset Operations

The assets are operated safely and standardized, according to defined technical parameters, legal requirements and adherent to the operational plan.

7.3 – Basic Operational Standards (DBO)

A DBO [Diretrizes Básicas de Operação (Basic Operational Standards)] process is applied to define the standards of activities and minimum routines of each function, and a validation system, inserted into the leadership MRA*, is applied to ensure effectiveness.

7.4 – SLA between Operations and Maintenance

A service level agreement (SLA) between operation and maintenance is established including, at least:

- Condition of the assets when delivered for maintenance;
- Items to be tested by Operations after receiving the maintained asset;
- Conditions for non-delivery;
- Analysis and treatment of deviations.

** (7.3) MRA: Management Routine Agenda, is a tool developed to help leaders organize and fulfill their routine, allocating appointments with the ideal frequency required in a daily, weekly, monthly or annual schedule. Examples of appointments are meetings, inspections, compliance verification with standards, indicators analyze, among other practices that may be origin technical or management.*

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

7. Operations

7.5 – Priority Variables

Priority variables* of the processes are identified, controlled and have their limits defined and deviations treated.

7.6 – Production Inventory Management

Intermediate and product inventory levels are established and controlled in order to have operational plan adherence.

7.7 – Product and Service Compliance

Products and services are monitored to accomplish the customer specifications. Deviations are identified and actions are done in order to have operational plan and quality adherences in each step of the process. The goal is to be predictable and to avoid passing problems downstream.

7.8 – Priority Consumables Management

The inventory control of priority consumables* and their conformity with technical specifications, are managed to ensure the execution of the operational plan and the preservation of the materials in its entirety.

7.9 – Operational Efficiency

Operational efficiency is managed through the study, analysis and treatment of process deviations. It seeks stability and a continuous alignment with the strategic positioning of the company in terms of health, safety, environment, quality, productivity and cost.

7.10 – Asset Management Basis Standards (DBA)

A Basic Asset Management Standard (DBA) process is applied to set rules and standardize the steps for rolling out and applying the Asset Management Standards, promoting continuous improvement in the Vale Assets Safety and Integrity.

** (7.5) Priority variables: are defined as process variables (X) that directly impact the process final results (Y). The number of priority variables is according to the phase, size and complexity of process and shall be defined internally.*

** (7.8) priority consumables: are items that are important to the process regarding health, safety, environment, communities, cost, quality and productivity to all phases of the productive process.*

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

8. Maintenance

Vale maintains it's facilities within standards, parameters, norms and legal requirements established with a focus on the safety of people and assets, in a reliable way.

8.1 – Asset Registration and Maintenance Strategy

All assets are registered in the maintenance system according to the established hierarchy. They are classified by criticality and priority, based on criteria that incorporate risk factors, and have a defined and periodically revised maintenance strategy.

8.2 – Non-Routine Maintenance Management

Non-routine maintenance, such as installing, uninstalling, replacing, modifying and temporary inactive status of assets, are conducted through the Change Management process and are considered during the multiannual capital process.

8.3 – Multiannual Plan

The maintenance strategy is deployed in a multi-annual plan according to the maintenance budget, to enable the planning or resources such as materials, equipment, components, man-hours, tools and training required.

8.4 – Maintenance Processes and Functions

Functions and processes for planning, inspection (where applicable), and reliability/problem handling are properly established and independent of the execution functions.

8.5 – Management of Major Shutdowns

Major shutdowns are planned and managed, considering necessary contingencies into account.

8.6 – Standardized and Planned Maintenance

Maintenance activities are planned, scheduled and executed in an optimized manner considering the standard practices, technical specifications, and health and safety requirements, and results are recorded in the computerized maintenance system.

8.7 – Maintenance Indicators

Processes and results indicators considering at least the efficiency, health and management of maintenance processes are defined, standardized and monitored using the maintenance system.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

8. Maintenance

8.8 – Basic Maintenance Standards (DBM)

A DBM [Diretrizes Básicas de Manutenção (Basic Maintenance Standards)] process is applied to set activity standards and minimum routines for each role. A check system, entered the leadership MRA*, is applied to ensure effectiveness.

8.9 – Resources Management

Resources such as materials, components, technical information and tools are planned and managed through specific processes to ensure that they are available in the appropriate quantity, at the indicated time and with the required quality to support the operations.

8.10 – Loss Profile and Failure Analysis

A process to identify gaps, analyzing, treating and preventing failures is applied based on failure modes and defined triggers of losses and impacts.

8.11 – Reliability Analysis

Reliability analyses using statistical tools are done in order to improve the performance, at least, of the critical assets.

8.12 – Life-Cycle Cost Analysis

A life cycle cost analysis of the assets is used, in order to analyze the best scenarios to minimize the impact of the cost of asset maintenance as well as its optimization.

** (8.8) MRA: Management Routine Agenda, is a tool developed to help leaders organize and fulfill their routine, allocating appointments with the ideal frequency required in a daily, weekly, monthly or annual schedule. Examples of appointments are meetings, inspections, compliance verification with standards, indicators analyze, among other practices that may be origin technical or management.*

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

9. Change Management

Management of Change is a leader´s role and its purpose is to assure that all changes* are adequately planned and safely implemented, in order to make sure that events with loss/impact pursuant to the changes to do not occur.

9.1 – Proposed change

The preparation of a proposal for change is based on structured methods and tools and can be carried out by all Vale employees and contractors; these proposals are formalized, and their technical and economic feasibility is evaluated.

9.2 – Change implantation

For a change to be implemented:

- Sits hazards shall be identified, and its risks calculated and addressed;
- it shall be in compliance with the technical norms, the regulations and the requirements in the applicable Vale normative standards;
- it shall be approved by the hierarchical level corresponding to the risk classification determined in the hazard and risk analysis study;
- its execution shall be planned and executed according to its complexity considering at least technical, HSEC, communication, training actions and their documentation.

9.3 – Pre-start and verification

Before the implementation of a change, it is mandatory to establish a communication and training process in order to inform and qualify all involved people and carry out a pre-start safety review. Upon completion of its implementation, a verification of its effectiveness and formalization of its documentation is done.

** changes: all and any addition, process modification or replacement of an item in a standard – technology, processes, raw materials, facilities, equipment, projects and services – which might directly or indirectly impact health, safety, environment and community.*

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

10. Systems and Technology

Vale maintains technological solutions that support its business, increase reliability and agility in obtaining data, allowing the elimination of parallel controls and providing information and indicators in a reliable, transparent and standardized way.

10.1 – Acquisition, development and improvement

The acquisition, development and improvement of systems, computerized applications and technologies follow standard guidelines for all areas.

10.2 – Official systems

All areas of the organization are to use the official systems, and follow the requirements, procedures and predetermined best practices.

10.3 – Management indicators

Management indicators are obtained from official systems and comply with standardized and defined formulas.

10.4 – Application Interfaces

The interfaces between applications are developed from specific guidelines and include procedures for monitoring and maintaining information security.

10.5 – Infrastructure

The infrastructure that supports the applications complies with the preestablished guidelines and meets the performance required for the business.

10.6 – Technology Services

The demands of technology services are formalized, use official channels of communication and meet business priorities.

10.7 – Access Management

The granting and revoking of access to technological resources is carried out according to the definitions of the policy and the information technology standard.

10.8 – User Committees

Committees of normative users are established for critical applications, aiming at exchanging experiences and best practices.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

VPS – Technical

11. Supplies and Services

In Vale, the fow of goods and services through the supply chain is carried out in accordance with internal norms and legal requirements, considering the risks associated and always seeking to add value to the business.

11.1 – Supplier registration

Suppliers are registered and certified according to the criteria defined, prioritizing the development of local suppliers in the areas where Vale operates. There is an evaluation process of suppliers that considers at a minimum: health, safety and environmental factors; associated risks; community impact; quality; time and cost.

11.2 – Contracting services and materials

During the purchase of services and materials, the internal norms and legal requirements are respected. Transactions are carried out on the basis of fair, equitable, transparent and free competition, without involving personal interests or arbitrary considerations. Suppliers are treated fairly and without discrimination.

11.3 – Suppliers mobilization

The mobilization and demobilization process of suppliers has defined criteria, including specific technical and safety training for activities. All relevant controls based on the risks associated with the scope of work are recognized, agreed, and addressed.

11.4 – Contract management

All Vale's contracts are managed according to internal rules and legal requirements, guaranteeing the sustainability of supply and compliance with contractual requirements.

11.5 – Supply chain management

Supply chain management is performed according to technical criteria, efficiently, reliably and safely. Where applicable, inspections are performed to ensure material specification, performance compliance, and that the waste generated is managed and disposed of in a sustainable manner.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

12. Emergency, Crisis and Business Continuity Plans

Prevention is always our priority, but we shall always be prepared to respond immediately and effectively to all material unwanted events. Vale develops and keeps emergency readiness and response, crisis and business continuity plans to respond different situations, based on inherent risks to our activities, minimizing the impacts of any kinds.

12.1 – Emergency

An emergency management process is in place and contains at least:

- Identification of relevant and reasonable scenarios using the results from the risk assessments;
- Emergency Plans based on the identified scenarios, including the worst case scenario, legal requirements or other means, and always updated;
- Organizational structure of the Emergency Plans and the necessary material and human resources;
- Established qualification and training program;
- Identification and development of partnerships with competent local authorities and the communities for formation of mutual aid plans;
- Emergency Response protocols that define and establish specific actions for emergency management, for all risk scenarios.

12.2 – Crisis

A crisis management plan is in place and contains at least:

- Characterization of all very critical risks, including the non-operational ones;
- Organizational structure and material and human resources necessary to respond to crises;
- Established qualification and training program;
- Identification and development of a matrix for notification to stakeholders;
- Defined criteria for situational analysis, recognition of the pre-crisis stage and triggering of the crisis management plan;
- Response protocols with immediate (reactive) actions for all applicable risks.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

12. Emergency, Crisis and Business Continuity Plans

12.3 – Business Continuity

A business continuity plan is in place and contains at least:

- Strategies for the continuity of the necessary critical processes, defined in BIA – Business Impact Analysis;
- Organizational structure and material and human resources necessary to implement the continuity strategies;
- Established qualification and training program;
- Defined criteria for situational analysis and triggers for prior activation of the continuity plan.

12.4 – Drills

Drills are conducted periodically as preparation for emergencies, crisis and business continuity, considering all very critical scenarios, in accordance with legal and regulatory requirements.

12.5 – Post-emergency

There are guidelines and procedures for mitigating and/or repairing* territories and communities affected post-emergence, including physical, biotic and socioeconomic means.

** repairing: it comprehends the restitution, compensation and rehabilitation of affected people, communities and territory.*

Photographer: Ricardo Teles

Method

13. Strategy Deployment | 14. Routine Management | 15. Processes and Standardization
16. Problem Solving and Continuous Improvement | 17. Assessment of Management System and Results

How are processes and routines structured to ensure the results are achieved and improved?
The method elements establish structured routines, methodologies and tools to sustain and improve results.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

VPS – Method

13. Strategy Deployment

Strategic deployment and communication allow everyone to understand their role and know how their activities contribute to the achievement of Vale's results.

13.1 – Vale's Purpose and Values

Employees understand their role in achieving Vale's purpose.

PNR-000046 – Strategy and Goals Deployment.

13.2 – Strategic Goals

Vale's strategic goals are defined, communicated and broken down into indicators that ensure that the entire organization works in unison.

PNR-000046 – Strategy and Goals Deployment.

13.3 – Goals Deployment

The target deployment process is result-focused, process-oriented and aligned across interfaces (horizontally and vertically). The deployed targets are valued in order to directly impact the expected results.

The targets for variable compensation purposes are established and managed according to the guidelines of the Goals Manual – AIP.

PNR-000046 – Strategy and Goals Deployment

PNR-000072 – Management by Objectives (MBO)

13.4 – Strategic initiatives

All initiatives are identified and prioritized in accordance with Vale's Strategy and resources availability.

PNR-000046 – Strategy and Goals Deployment

PNR-000072 – Management by Objectives (MBO)

13.5 – Plans to achieve goals

Plans to achieve goals are defined and followed up on a daily basis.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

14. Routine Management

Management routines create discipline and ensure that all areas continuously analyze indicators, expose problems, align priorities and take the necessary actions to achieve results, always making decisions ethically and responsibly.

14.1 – KPIs Definition

Result and process KPIs are established aligned to the strategy deployment and business needs.

Indicators should include HSEC, Risks, People, Quality, Productivity and Costs dimensions.

14.2 – KPIs Standardization

KPIs have a single accountable person defined in accordance with the responsibilities of the processes and are measured following the established standards.

PNR-000012 – Vale's Indicators Manual

14.3 – Performance Routine

A routine is in place to measure and report performance, analyze KPIs and ensure that problems are prioritized, exposed and solved.

PNR-000001 – Performance Meetings

PNR-000032 – Routine Management

PNR-000028 – Problem Solving

14.4 – Visual Management

The area uses visual management to monitor results and identify problems.

14.5 – Standards Verification

Leaders have a structured routine to verify the execution of standards through direct observation (going to the gemba). For areas covered by the Basic Guidelines, it is mandatory.

14.6 – Management Routine Agenda

The Management Routine Agenda reflects the minimal routines necessary for exercising and performing the function, being fulfilled and monitored by the leader.

PNR-000032 – Routine Management

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardization

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

15. Process and Standardization

Processes and procedure standardization ensure the safety of activities, the predictability of results and enables the implementation of best practices.

15.1 – Process understanding

The area understands its role and identifies the main activities, customers and their needs, inputs and suppliers for the processes under its responsibility.

15.2 – Value Chain

The processes are structured considering the requirements of the value chain from end to end, in order to optimize the fow and maximize results.

15.3 – Roles and Responsibilities

Roles and responsibilities are clearly defined and communicated, considering process and decision-making activities.

15.4 – Standardization of Priority Tasks

Priority tasks are standardized.

PNR-000039 – Process and Standardization

15.5 – Best practices replicated and implemented

Best practices related to health, safety, environment and risk are replicated and implemented in applicable areas and processes.

15.6 – Policies and Procedures

Policies and procedures are accessible and properly controlled in order to prevent the use of misleading information.

15.7 – Records

Records* related to process execution are properly retained and stored in accordance with business needs and legal requirements.

15.8 – 5S

5S is implemented and ensures safe and healthy working conditions, in addition to visual references that expose abnormal conditions, especially hazards and risks.

15.9 – Standards execution

Priority tasks executed according to established standards providing the achievement and stabilization of results.

** (15.7) Records: Filled documents that require storage for the purpose of traceability and compliance with Vale standards and legal requirements.*

e.g.: SWP, PPRA, equipment calibration, environmental monitoring, Medical Examination, accountability invoice etc.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

VPS – Method

16. Problem Solving and Continuous Improvement

Problems are identified and reported as soon as they occur and are resolved as quickly as possible through structured methods that encourage continuous improvement.

16.1 – Visible leadership in the field (Gemba)

Visible leadership in the field, helping to identify problems on a daily basis through direct observation and check of references.

16.2 – Problem solving methods and tools

PDCA-based methods and tools are used to ensure root cause is identified and an action plan defined.

PNR 000028 – Problem Solving.

16.3 – Action plans follow-up

Action plans are tracked until their implementation, and the deviations are identified and addressed.

16.4 – Effectiveness Analysis

The effectiveness of the implemented actions are performed with focus on results.

16.5 – Applicability analysis

Comprehensiveness analysis are performed for internal and external best practices, along with implemented actions.

16.6 – Wastes elimination

Wastes are identified and tackled.

16.7 – Engagement and Continuous Improvement

Employees are engaged to propose solutions to improve activities individually or in groups.

16.8 – New Challenges

New challenges are defined to continuously improve processes and results, aligned with the business and the customer needs, always ethically and responsibly.

Message from the CEO

VPS

Leadership

1. Leadership Behaviours and Commitment

2. People Management

3. Organizational Design

Technical

4. Risk Perception and Risk Management

5. Health, Safety, Environment and Community (HSEC)

6. Projects and Construction

7. Operations

8. Maintenance

9. Change Management

10. Systems and Technology

11. Supplies and Services

12. Emergency, Crisis and Business Continuity Plans

Method

13. Strategy Deployment

14. Routine Management

15. Processes and Standardizationo

16. Problem Solving and Continuous Improvement

17. Assessment of Management System and Results

17. Assessment of Management System and Results

Assessments are performed based on process and result indicators ensuring model compliance, and helping the leader identify problems, providing information to improve the implementation of VPS and the area results.

17.1 – Assessments and VPS Implementation Plans

Self-assessments and formal assessments are performed to identify opportunities for improvement in the implementation and use of VPS and in the results achieved.

PNR-000054 – Assessment of Management System and Results

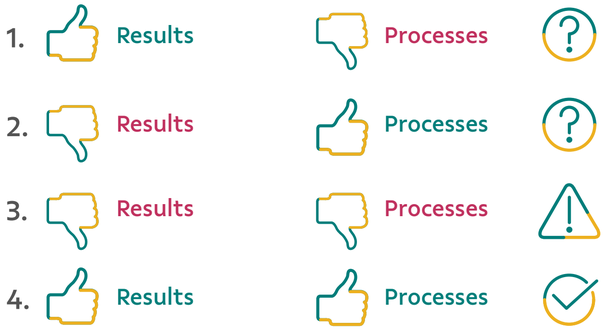
17.2 – Audits

Internal and external audits are performed whenever applicable, the recommendations are evaluated and the non-conformities are registered and followed until its resolution.

17.3 – Results

Area's main expected results are achieved.

In an assessment it is very important to consider both results and processes:



When results are achieved but processes are not structured, results are not sustainable. On the other hand, poor results from apparently good processes indicate that efforts are directed towards what is not relevant. In this case it is necessary to review processes and indicators. If the results and processes are poor, the process needs to be improved. Positive results are achieved through well-structured processes.

For our brand to be well built, everyone needs to follow the recommendations in this guide.

If you want to know more, if you didn't find the information here you are looking for, consult the Vale Brand Guide, visit the VPS page on the Intranet or send an email to vps@vale.com.

All rights reserved. This file is for exclusive use in Vale's activities, whether by employees, suppliers, subcontractors and other agents (if any). The content may not be copied, adapted, reproduced, distributed, sold, licensed or exploited for any purpose whatsoever, without Vale's prior and express consent.

Photographers:
Beto Felício
Cedric Rocha de Souza
Daniel Mansur
Eduardo Perini
Gabriel Lordêllo
Jess King
Pedro Cattony
Marcelo Coelho
Márcia Foletto
Mohamed Darus bin Hasib
Ricardo Teles
Roberto Ribeiro
Vitor Nogueira

VALE