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## 1.0 Introduction and Purpose

Frontera Resources Corporation Health, Safety, Environmental, and Community (HSE) policy states that “we will conduct our business with respect and care for our employees, contractors, communities, and the environments in which we operate”. Our vision is Zero harm to people and the environment while creating value for our shareholders. The full text of the Frontera HSE policy is found in Appendix A of this document.

Frontera is committed to using a management systems approach for all safety and environmental matters. This document provides the Frontera HSE Management System. The primary purpose of this Management System is to provide the structure for the development, implementation, and assessment of Frontera’s HSE programs which are designed to achieve our vision. The Management System provides the framework and the guidance for enabling conformance with Frontera policy, National requirements, and International standards. Use of the Management System ensures that the management of safety and environmental issues is an integral part of normal business activities. The HSEMS is in fact a business system.

The benefits for Frontera to use a Management System approach are as follows:

- provide a foundation for achievement of our HSE vision
- prevent long term liability issues from arising
- provide a structured link from policy to practices
- enable clear identification of risks
- enhance effective partner relations
- provide for effective contractor management
- enhance good stakeholder relations

## 2.0 HSE Elements and Expectations

The Frontera HSE Management System is based upon the Plan Do Check Review framework. This framework is illustrated in Figure 1. Implementation of the Management System enables continuous improvement of all aspects of our HSE performance.

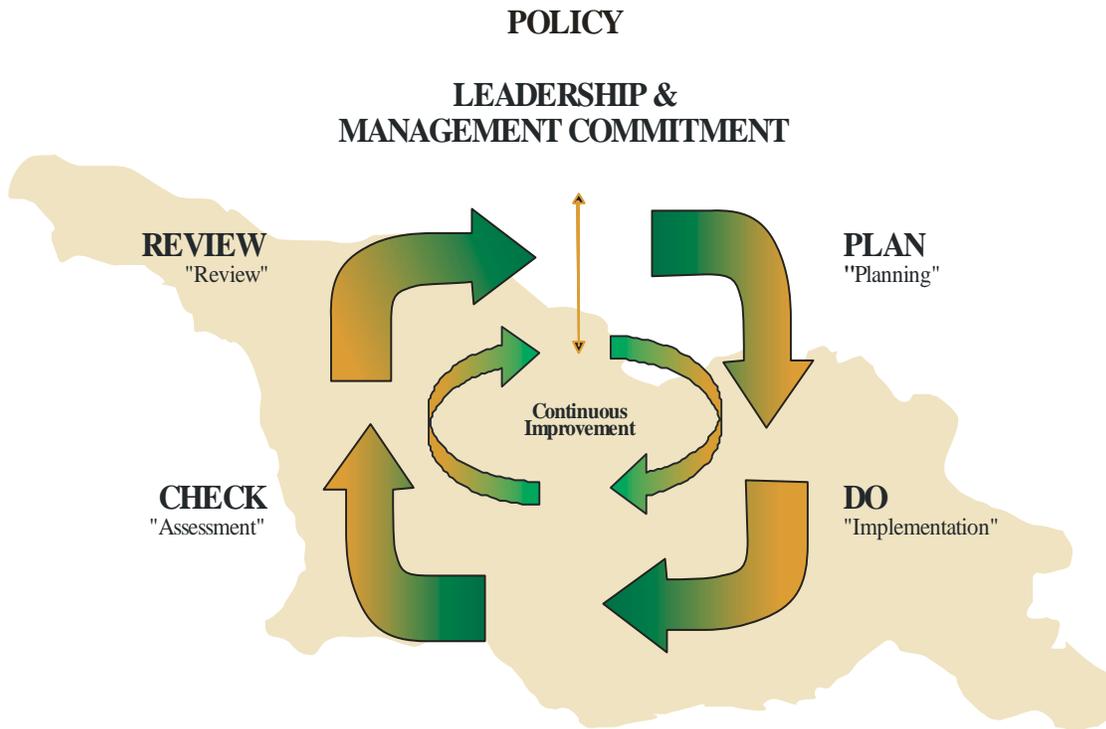


Figure 1

The five core components of the Management System shown above are described as follows:

- “Leadership and Management Commitment” provides the leadership actions that demonstrate management commitment to the system and to safety and environment stewardship in our business.
- “Planning and Asset Management” establishes the objectives, evaluates risks, develops plans, and manages assets to achieve HSE expectations.
- “Implementation” defines operational controls, contractor management processes, and training requirements.
- “Assessment” provides for the evaluation of performance and identification of corrective actions that ensure the controls and procedures are working effectively.
- “Review” defines the requirements for management review and improvement of the system which enable continuous improvements.

There are a total of eighteen elements contained under the five core components of the Management System. They are as follows:

Leadership Commitment  
Organization and Governance  
Goals, Targets, and Objectives  
Plans and Programs  
Project Design  
Risk Assessment and Management  
Operational Controls  
Change Management  
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Each of the elements is described in detail in this section. The purpose of each element is stated. Expectations for activities associated with each of the MS elements are shown under each element as a set of bullets. It is expected that specific programs and procedures which are in alignment with these expectations will be developed and implemented for Frontera operations.

## **LEADERSHIP AND MANAGEMENT COMMITMENT**

### 1. Leadership Commitment

Management demonstrates their support of the HSE MS through their words, actions, and commitment of resources.

- A policy on safety, health, and environmental (HSE) is established, communicated, promoted, periodically updated and supported at every level and location in the company.
- Management demonstrates commitment through active and visible participation in all aspects of the HSE management process.
- Leadership requires clear goals and objectives to be established for the HSE Management System and performance is evaluated against these goals and objectives.
- Leadership is accountable for translating expectations into procedures and practices.

- Leadership continually communicates to employees and contractors the vision of zero harm to people and the environment.
- Leadership assigns accountability to operations management and certain responsibilities to HSE personnel.
- Leadership nurtures a HSE excellence culture.
- Leadership encourages active involvement by all employees and contractors in HSE matters.
- Leadership provides reward/recognition for excellent HSE achievements.

## 2. Organization and Governance

The organizational structure clearly identifies HSE responsibilities and accountabilities; the process for developing and ensuring implementation of programs is described.

- The Board of Directors (BOD) has a recognized responsibility for HSE strategic direction and oversight. A person on the BOD is either assigned or perceived to be the champion for HSE.
- There is a Frontera leadership committee to establish focus and priorities; review performance and issues; establish company targets, goals, and objectives; and to ensure adequate resources are provided. They meet periodically during the year.
- An operations manager's network exists to process HSE issues; communicate problems/successes/lessons learned, develop programs, and initiate goals and KPI's.
- Operations management is accountable for HSE performance.
- HSE roles and responsibilities are clearly articulated and understood. A RACI (Responsible, Accountable, Communicate, and Inform) exists.
- Operations management provides annual verification of HSE compliance with company and government requirements based upon comprehensive self-assessments.
- HSE is a priority topic in all business decisions and major project reviews.
- A hierarchy of HSE expectations/requirements exists in a pyramid fashion going from ...vision, policy, management system standard, protocols/guidelines, procedures, to site specific work practices and job instructions.

## **PLANNING AND ASSET MANAGEMENT**

### 3. Goals, Targets, and Objectives

All levels of the company establish HSE objectives annually, monitor progress, and evaluate performance.

- HSE goal setting is an integral part of the business goal setting process.
- Operations leadership drives the HSE goals formulation.
- Leading and lagging KPI's are prepared for tracking of performance. Operations goals and targets are in alignment and Frontera Vision and Policy.
- There is an acceptance of the long term vision of zero incidents and zero harm.
- A scorecard exists, is communicated broadly throughout the Company, and is updated routinely (e.g. quarterly).
- All employees have personal HSE targets.
- All major contractors have performance goals.
- There is "money at risk" regarding achievement of goals and targets.
- Conformance against goals and targets is routinely reviewed during the year with supervisor and/or project manager.

### 4. Plans & Programs

Plans and programs are developed to ensure regulatory and management system compliance and to guide the implementation of specific HSE activities.

- Plans and programs are formulated to address Frontera's HSE vision. Continuous improvement is a principal driver; zero harm to people and the environment is the ultimate objective.
- Accountabilities for implementation are assigned to operations management.
- Evaluations are continually made of the effectiveness of plans/programs and leading KPIs on the operations HSE performance as measured by lagging KPIs; adjustments to plans and programs are made.
- HSE plans and programs are an integral part of the business planning process.
- The HSEMS and its implementing plans, programs, and procedures are reviewed periodically by organization management.
- Employee and contractor awareness and involvement are continually taught and sought.
- A system exists within the Company to share plans and programs as well as lessons learned throughout the company and its contractors.
- Strategic HSE issues connected with business objectives are identified and evaluated; options for response are developed; actions are implemented.
- A HSEMS is in place; implementation plans and programs are developed; work procedures and guidelines are developed and understood.
- Environmental management plans exist for ongoing Business Unit operations.
- Plans and programs are communicated to all appropriate personnel; training is conducted.
- A due diligence program is in place.
- Site safety programs include routine safety meetings.
- Site safety programs include incentive and disciplinary actions.
- Interaction with host country governments assists formulation and revisions of HSE plans and programs.
- A substance abuse program is in place.
- Office safety and off the job safety are addressed.

## 5. Project Design

HSE risks associated with all aspects of a project are identified and reviewed in the planning stages of projects.

- Project management systems and procedures are documented, well understood, and executed by qualified personnel.
- In the design and construction of new or modified facilities, approved design practices and standards are used that meet or exceed applicable regulatory requirements; or that embody global industry requirements where regulations do not exist.
- HSE risk assessments are performed at appropriate stages of design by the project leadership team; findings influence final design and construction.
- All environmental residuals streams are identified, quantities estimated, and controls defined.
- Deviation from approved design practices and standards is permitted only after review and approval by the designated authority, and the rationale for the decision is documented.
- Quality control and inspection programs are in place to verify that facilities meet design specifications and that construction is in accordance with the applicable standards. Critical materials and systems are verified to ensure they meet or exceed design specifications.
- Pre-job startup and tailgate meetings occur routinely during construction. A pre-startup review is performed and documented to confirm that: Construction is in accordance with specifications; safety, health, and environmental protection measures are in place; emergency, operations, and maintenance procedures are in place and adequate; risk management recommendations have been addressed and required actions taken; training of personnel has been accomplished; and regulatory and permit requirements are met.

## 6. Risk Assessment & Management

Management of risk is necessary to ensure the safety and health of workers, surrounding communities, and protection of the environment.

- Procedures are in place to identify hazards, assess consequences and probabilities, and evaluate prevention and mitigation measures for ongoing management of risk.
- Risk assessments are conducted periodically by qualified personnel (including expertise from outside the immediate business unit as appropriate) for ongoing operations (e.g. JSAs), for projects (e.g. JHAs), and for products to identify and address potential hazards to personnel, facilities, the public, and the environment.
- Procedures are in place to assess and prioritize identified risks, manage them and document and communicate risk management decisions. Assessed risks are addressed by specified levels of management appropriate to the nature and magnitude of the risk, and decisions clearly documented. Follow-up procedures exist to verify that decisions have been implemented.
- Risk assessments are updated at specified intervals and as changes occur; findings are broadly communicated.
- Procedures are in place to verify that the design of new and modified facilities incorporate appropriate HSE protection measures.
- A system is in place to assess potential business or acquisitions/divestitures. Findings affect business decisions.

## **IMPLEMENTATION**

### 7. Operational Controls

Mitigation measures are implemented and descriptive guidelines are used to ensure the safety and health of workers, the communities, and to protect the environment.

- Mitigation measures are identified which ensure alignment with the company HSE vision.
- A Permit to Work system is in place and used by employees and contractors.
- Safe work practices are developed for critical operational tasks. Site specific procedures are developed to ensure safe working conditions. They are communicated to all appropriate personnel.
- Environmental control measures are established and followed.
- Facilities and equipment are maintained to ensure that all safety and environmental controls are in an operable condition.
- Critical alarms, controls and shutdowns are identified, tested and maintained.
- Mechanical and operational integrity systems are in place, routinely reviewed and continuously improved.
- Journey management and safe driver procedures are established.
- Proper PPE is provided to all personnel and is used.

### 8. Change Management

All physical or procedural changes to operations that have the potential to introduce HSE risk are evaluated and managed prior to and during implementation. Organizational changes are also evaluated.

- A process is in place to support development and implementation of necessary operating, maintenance, and inspection procedures; and to provide for updating at specified intervals and when changes are made. Operations with potentially higher risk are managed with special procedures. Operating procedures are readily available to employees, contractors, and visitors on a need to know basis.
- Drawings and other pertinent documentation necessary for sound operation and maintenance of facilities are identified, accessible, and regularly updated.
- Procedures are in place for managing both temporary and permanent changes (i.e., a "Management of Change" system). Guidelines provide the details of the MOC procedure.
- All employees are aware of the management of change system, understand its implementation, and are trained on its use.

- Local community and other external shareholders are informed of significant changes before they occur.
- Pertinent records covering operations, maintenance, inspections, and facility changes are maintained.

## 9. Compliance Assurance

A system is in place to evaluate and ensure ongoing conformance with all regulatory and company HSE requirements; operations management provide routine written affirmation.

- Procedures are in place to ensure that all applicable HSE legal requirements are known and compliance is incorporated into relevant operational procedures.
- Procedures are in place to periodically verify compliance with all applicable laws, regulations, and permit requirements.
- The Board of Directors and Executive Management periodically discuss and review HSE conformance with vision and expectations.
- Operations management provides annual written certification of legal compliance to the Frontera CEO.
- Emerging HSE issues and legal requirements are monitored, and impacts or benefits to company business are identified.
- Procedures are in place to communicate emerging HSE legal requirements that may have significant impact on operations; and to communicate information on emerging HSE issues that could impact the company's business.

## 10. Contractor Management

Procedures are in place to manage contractor operations to ensure proper coordination and communication and to ensure that the work is conducted in a safe and responsible manner which meets Frontera's expectations.

- Evaluation and selection process for contractor services include assessment of capabilities to perform work in a safe and environmentally sound manner. Contracts contain HSE conditions.
- Procedures are in place to verify that contractors manage HSE issues in a manner compatible with the company's HSE Management System. Bridging document is prepared to provide the interface. It is discussed and agreed to prior to commencement of operations.
- Goals and objectives for the project are established.
- Contractor performance requirements are defined and communicated. These include responsibility for providing personnel trained, qualified, and able to perform specified duties; and a process for self-monitoring.
- Project specific HSE plans are developed by the contractor.
- Procedures are in place to verify effective management of interface with contractors and to monitor contractor performance, to provide feedback, and to confirm that deficiencies are corrected. Progress reports are received.
- A process is in place to facilitate joint company and contractor meetings, audits, inspections, and accident investigations.
- Procedures are in place for accurate and timely reporting of all occupationally related contractor injuries and illnesses, and environmental or regulatory incidents.
- Procedures are in place for reporting and documentation of contractor's performance for use in possible future work.

## 11. Training

Training is provided to ensure that all employees are competent to carry out their responsibilities in a safe and environmentally responsible manner.

- A training matrix (job responsibility vs. training courses needed) has been developed. Supervisors utilize the training matrix in annual discussions with employees regarding their training plan for

the following year. A computer-based system is in place to document and manage training records.

- Training is delivered both via CBT and hands-on training depending upon the material. Critical skills competency, e.g. hot work, LO/TO is always hands-on. Informal training takes place via daily, weekly, and monthly safety meetings on selected specific topics. On the job training in the form of tailgate meetings, toolbox meetings, and lunchtime presentations occurs. Line employees assist in training course development and delivery. Competency must be demonstrated in both hands-on and CBT training.
- The training system is continually reviewed for continuous improvement; employee feedback is solicited and revisions made. External training expert's advice is solicited.
- Training metrics are developed and correlated with organization HSE performance; adjustments are made in programs; rewards/recognition is given for appropriate training accomplishments which lead to HSE performance improvements.
- HSE training focuses on implementation of the HSE MS, host country requirements, programs, plans, risk assessment techniques (JHA, JSA, etc.) guidelines, and practices/procedures.
- All jobs have defined HSE components; competency must be demonstrated by the job holder.

## 12. Incident Investigation

Safety and environmental incidents are reported, recorded, and investigated in order to identify root cause and to prevent reoccurrence.

- Procedures are in place for reporting, investigating, and documenting safety, health, environmental, and regulatory compliance incidents and significant near misses. An incident investigation process includes, at a minimum, the types of incidents to be reported and investigated; the level of management to be informed; the content of the notification and of the incident investigation report; and the time frame for conducting the investigation.
- Accountabilities are assigned to operations management to lead the investigation and to implement the correct actions. HSE personnel are part of the team.
- Procedures exist for evaluation of near misses and incidents and identification of root causes of and contributing factors, and the determination of corrective actions needed to reduce the risk and recurrence of this and related incidents.
- Findings are retained, periodically analyzed to determine where improvements to company standards, processes, procedures, or management systems are warranted.
- Procedures exist to verify that corrective actions are implemented, documented and periodically assessed.
- Lessons learned from incidents or near misses are shared among operations personnel to facilitate improvements in performance.

## 13. Crisis Management & Emergency Response

All operations have emergency response plans, skills training and equipment to respond to any HSE emergency.

- Emergency response and crisis management systems are in place for all appropriate operations. Plans are documented, kept up-to-date, accessible, and clearly communicated and understood.
- Equipment, facilities, and trained personnel necessary to respond to emergency situations are defined, available, ready to use, and periodically tested.
- Procedures exist for providing simulations and drills, which include considerations of external communications and involvement. Exercises are conducted to verify emergency response plan applicability and resource readiness. The relative roles, responsibilities and capabilities of company, contractor, and government emergency response agencies are understood and incorporated into emergency response plans.
- Procedures exist to evaluate lessons learned from industry experiences and learnings and to factor these learnings into appropriate improvements in operations and project design.
- Institutional arrangements are in place to cover Tier 1, 2, and 3 incidents.
- An ongoing communication with local communities is undertaken by all operations.

- Arrangements with HSE expertise are in place to rapidly conduct environmental and/or asset damage assessment.

#### 14. Document Control

Documents and records are maintained, organized, and accessible.

- Procedures are in place to assure that controlled documents (i.e., required as part of the HSE management system or required by host country law) are current and accessible.
- Policies, procedures, and guidance documents are reviewed at appropriate intervals and replaced or updated as required.
- Records retention guidelines are in place and adhered to. They are continuously reviewed for effectiveness.
- The document control system is periodically audited and tested; corrective actions are taken.

#### 15. Monitoring & Reporting

Business units conduct routine monitoring and inspections to ensure compliance with prescribed operational practices/procedures and regulatory requirements.

- HSE performance monitoring and reporting is performed against key leading and lagging indicators. KPI's are linked to organization goals and objectives and are also in alignment with the company vision.
- Reports are routinely, e.g. monthly, provided by operations management.
- All significant incidents are reported to the Executive Leadership Team including the CEO within 24 hours.
- Procedures are in place to enable reporting of lessons learned and "good news stories" and to communicate them broadly throughout the company.
- Critical system, alarms, and shutdown procedures at all facilities are regularly tested and drilled. Monitoring equipment is regularly maintained and calibrated; results are evaluated.
- An annual HSE report is published.

#### 16. Stakeholder Engagement

A process is established for routine reporting of business activity and HSE performance to appropriate stakeholders; stakeholders are engaged in dialogue on issues and new projects.

- Company leadership engages in dialogue with key stakeholders regarding strategic issues and significant business planning decisions. Operations leadership seeks community interaction on new projects on a case-by-case based on a risk-based approach. In some cases a "Locality Management Strategy" may be developed.
- Concerns or comments on issues from community leaders are addressed promptly.
- Leadership continually communicates its vision of Continuous Improvement and Zero Harm to all Stakeholders and seeks feedback
- A comprehensive system exists for providing and tracking HSE information, e.g. goals, objectives, issues, responsibilities, impacts, budgets, etc, internally to employees and contractors and externally to key community leaders.

### **ASSESSMENT**

#### 17. Audits

Operations and business are periodically audited to evaluate HSE MS conformance and to identify areas for improvement.

- The company protocol describes expected frequency of audits and suggested team composition. Also defined are expectations for reporting, follow-up corrective actions, and accountabilities.
- Procedures exist to communicate findings and lessons learned. Procedures also exist to ensure audit findings and corrective actions are tracked to closure. Operations leadership periodically reviews status of audit program and significant findings.
- Audit protocols are reviewed annually and are linked to Corporate HSE and Business strategic goals and objectives. Performance metrics are established and tracked.

## **REVIEW**

### 18. Management Review

Management conducts an annual review of the overall HSEMS to ensure its effectiveness and to identify areas of improvement.

- Management reviews of HSE MS implementation and performance are performed.
- A strategic management plan may exist which identifies HSE MS gaps, priorities, and accountabilities.
- An annual HSE self-assessment of “current state and desired future state” is performed by Operations leadership. The “desired future state” is in alignment with the company HSE vision and policy. The HSE Assessment Chart may be used as an assessment tool. Operations leadership periodically asks for status reports on progress against the “desired future state” for the company’s operations.
- Operations leadership team periodically, e.g. quarterly, review statistical performance and systems implementation.
- Core elements of the HSE MS are periodically discussed by operations leadership and implementation procedures improvements are communicated.
- Accountabilities to operations leadership for HSE strategic management are assigned, tracked and evaluated. Accountabilities are incorporated into personal goals and objectives. Progress is reviewed periodically throughout the year.
- A process exists in the company to share and discuss lessons learned from management reviews.

### **3.0 HSEMS Performance Assessment**

Frontera policy requires HSE performance to be measured and reported on a regular basis. Performance goals and objectives should include leading (proactive) and lagging (reactive) Key Performance Indicators (KPI). Lagging KPIs include environmental violations, spills, releases, accidents, injuries, etc. Leading KPIs include training programs, incident investigation, performance recognition, etc.

All Frontera managers and employees have HSE performance goals and objectives included in their annual performance review.

The HSE Assessment Chart is a tool that may be used to identify those critical actions required for Frontera operations to achieve its stated goals. The matrix allows evaluation of its HSE performance against a series of stages for each of the 18 elements. The stages are presented on a scale ranked from 1 to 5, as follows, with 5 indicating the highest level of performance.

- 5 – Continuous Improvement
- 4 – Management System In Place
- 3 – Implementing
- 2 – Program Development
- 1 – Awareness Building

The performance measures for the stages within each element are described in [Appendix C](#). Although stage 5 reflects the highest level of HSE performance for a given element, it may not be appropriate for Frontera to

attempt to achieve all stage 5 performance measures, due to operating environment, phase of the project life cycle, cost effectiveness of implementation. Prioritization criteria should be established, critical elements selected and near and mid term goals developed. To effectively use the matrix, the steps outlined below should be completed.

- Step 1. Identify current performance level for each element
- Step 2. Identify desired performance level for each element
- Step 3. Identify the elements in which performance improvement would most benefit the organization
- Step 4. Perform a gap analysis to determine what must happen to reach a desired performance level
- Step 5. Establish objectives and goals based on the gap analysis
- Step 6. Develop an action plan to achieve the identified goals
- Step 7. Review progress and re-evaluate

Step 1: Use the matrix as an evaluation tool by identifying the current practices of the organization for a given element. Compare these current practices to those listed in the matrix to determine the current performance level for each element.

Step 2: Review the performance measures for a given element and identify those that would indicate the desired level of performance, e.g. 3 to 5 years in the future.

Step 3: Although all elements in the HSE MS are important, Frontera should initially focus improvement efforts on those elements that have the most significant impact on improving HSE performance. Frontera should focus on one to five elements to improve on in the near term. As goals and performance objectives are achieved, Frontera may focus on additional elements.

Step 4: Once the elements in Step 3 have been identified, a “gap analysis” must be performed to determine what must be done to achieve the desired level of performance. This could include changes or additions in processes or activities, behavioral changes, audits, additional training and new or revised plan or program development.

Step 5: Short-term (1 to 2 years) and long-term (3 to 5 years) objectives and targets to measure progress toward the identified goals should be prepared.

Step 6: An action plan to meet the short and long-term goals should be prepared and implemented. Accountabilities should be assigned to organization leadership. The plan should include milestones and a periodic review process to ensure that the plan is effective and that the desired performance goals are being progressed toward.

Step 7: Frontera leadership should perform an annual review of its entire HSE performance and do re-evaluation of its goals. This management review is part of the management review element.