

## Centennial Integrated HSEQ Manual

### Short description

The Integrated HSEQ Manual outlines the framework of the procedures and systems that are used to incorporate health, safety, environment and quality into a coherent and successful management system for Centennial, joint ventures and subcontractors.

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# 1 Objective, scope and area of application

Centennial is committed to being an industry leader in employee health, safety, environmental and quality practices. This commitment is upheld through an integrated management system to focus our business activities and continually improve our health, safety, environmental and quality performance. It applies to the complete life cycle of our business - from an acquisition to design and construction, to operations and to end of warranty period.

Each Centennial employee is responsible for health, safety, environmental protection and quality. This awareness combined with an open approach to challenges is part of the Centennial HSEQ culture and climate. Managers at all levels are responsible for informing themselves, their employees and subcontractors at regular intervals about the state of non-conformities and actively seeking improvements.

Centennial's Health, Safety, Environment and Quality (HSEQ) commitments are communicated and implemented through this integrated HSEQ Manual. The HSEQ Manual applies to all HSEQ-related matters arising out of all activities and operations controlled by Centennial, its related joint ventures and business partners (referred to furthermore as Centennial) and the impact of those activities and operations on employees, contractors, the environment, customers and the communities in which the company operates.

## 1.1 Objective

The objective of this HSEQ Manual is to provide Centennial employees, our business partners and our clients with an effective directive and tool to assist in meeting our commitments and to continuously improve the health, safety, environmental and quality performance of our organization. The integrated HSEQ Manual is part of Centennial's overall management system and corporate governance. This manual is a comprehensive strategy intended to identify, control and reduce risk, protect the environment including our natural resources and to ensure that the integrity of our work product is maintained throughout its life cycle.

## 1.2 Scope

The scope of the Centennial HSEQ Manual is to ensure that Centennial and our business partners share and promote a common approach in managing HSEQ performance and achieve ongoing improvement in our HSEQ Management System. This manual includes a focus on the systematic identification, management and improvement of the areas of our business that may present HSEQ risks. This approach applies to the management of health, safety and the environment across our business activities as well as the management of quality where the objective is to ensure a consistent performance to properly developed requirements.

Implementing one consolidated and streamlined management manual (rather than having a number of individual systems to manage each area) brings together all of the requirements for health and safety, the environment and quality.

This enables Centennial to:

- Centrally identify, evaluate and manage risk across the organization
- Optimize the distribution of HSEQ resources

- Improve HSEQ performance
- Improve customer satisfaction
- Maintain and enhance reputation

### 1.3 Application

Centennial contractually requires all joint venture and business partners to conform to this HSEQ Manual. Centennial will orientate all partners and subcontractors on the manual where appropriate and ensure that their performance is consistent with our HSEQ Management System.

Compliance with this HSEQ Manual and sections are mandatory and apply to all:

- Centennial and joint venture employees
- Centennial and joint venture projects
- Non-construction operations and Centennial or joint venture owned or operated facilities
- Care and maintenance
- Subcontractor and lower tier subcontractor operations
- Vendors and delivery personnel whose activities actually intersect Centennial or joint venture activities
- Warranty items and re-work

## 2 Superior and additional applicable documents

1000\_GP\_11\_01\_en\_6.0 Global Policy on Health, Safety, Environment and Quality (HSEQ)

1000\_GS\_11\_01\_en\_1.0 HSEQ Management

1000\_GS\_11\_02\_en\_2.0 Life-Saving Rules

1000\_GS\_11\_03\_en\_1.0 Leadership and Workers Involvement

1000\_GS\_11\_04\_en\_1.0 Health and Safety Standards of Work

1000\_GS\_11\_05\_en\_1.0 HSEQ Incidents and Accounting Rules

1000\_GS\_11\_06\_en\_1.0 Active

ANSI/AIHA Z10- Occupational Health and Safety Management Systems

EM 385-1-1 Safety and Health Requirements

29 CFR 1910

29 CFR 1926

This manual applies to all Centennial employees and subcontractors who are performing work on a Centennial project site and may be potentially exposed to hazards during the course of his or her work. There may be more stringent requirements than what is stated in this manual as

defined by specific State, local or contract specific requirements. If there is a conflict between this manual and other applicable regulations, the most stringent will apply.

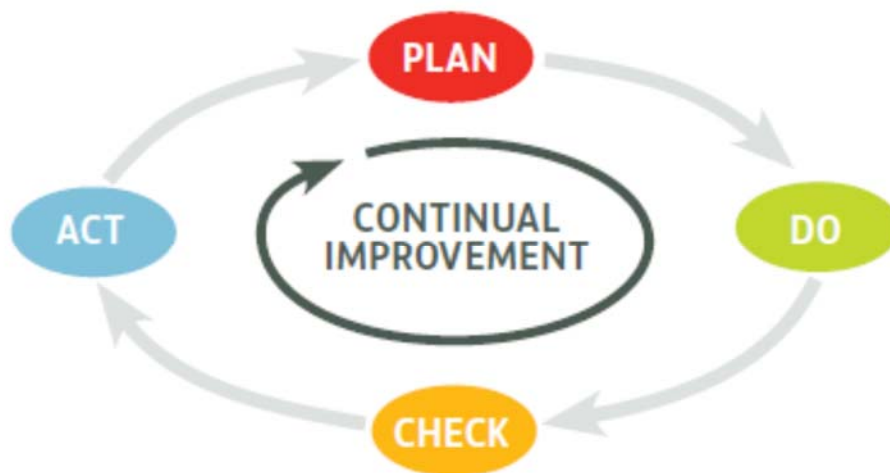
### 3 Definitions

The following definitions of terms are important for an understanding of this section.

Term	Definition
Centennial	All Centennial employees, joint venture employees, subcontractors and business partners
HSEQ	Health, Safety, Environment and Quality
HSEQ Management System	Centennial's system for managing risk by avoiding health and safety incidents, environmental damages or quality degradation.
PDCA	Plan, do, check, act model of continuous improvement

### 4 Framework of the HSEQ management system

HSEQ leadership for Centennial is based on our core values and the principle of continuous process improvement. The figure below illustrates the elements and process of our HSEQ management system and how it fits into the PDCA framework.



HSEQ Management Framework Principles:

- Promote personal accountability and responsibility for health, safety, environment and quality
- Establish clearly defined HSEQ roles, responsibilities and objectives
- Clearly communicate HSEQ roles, responsibilities and objectives
- Ensure that HSEQ competence is commensurate with responsibilities

- Provide adequate authorization and management support necessary to fulfill HSEQ responsibilities
- Promote continuous improvement of HSEQ program and processes

#### 4.1 Health and safety management

An effective health and safety management system is the structure that allows Centennial to consistently identify and control its health and safety risks, reduce the potential for incidents and accidents and help to achieve compliance with health and safety regulations and/or best practices.

The Centennial health and safety management system consists of the following elements:

- Obtainable and achievable goals and objectives
- Employee responsibility for health and safety
- Clear roles, responsibilities and expectations
- Competence commensurate with responsibilities
- Hazard assessment and controls tailored to the work being performed
- Management review and continual improvement

The Centennial health and safety mission statement is as follows:

**“Safety is the single most important thing we do. Safety is more important than profit, quality, schedule or customer satisfaction. If we cannot perform work safely, we will not do it. Safe is the only way we do business.”**

#### 4.2 Environmental management

Centennial environmental management is a systematic and structured approach for addressing the environmental consequences and impact of the organization's activities.

The environmental management system is part of the organization's overall management system used to develop and implement its environmental policy and manage its environmental aspects i.e. its activities or products or services that can interact with the environment.

The determination and evaluation of environmental aspects is an important requirement for avoiding negative environmental impact that can be caused by business activities. This process therefore represents an important element in the framework of Centennial's environmental management system.

Centennial's environmental management system consists of the following key elements:

- Planning
- Implementation and operation
- Checking and corrective action
- Management review and continuous improvement

### 4.3 Quality management

Quality management may be defined as a process approach where the performance of tasks ensure that construction, is performed according to plans and specifications, on time, within a defined budget, and a safe work environment. For purposes of this section, quality is defined as conformance to properly developed client and industry standard requirements.

Our quality management system is based on the following:

- Customer and/or client focus
- Quality management leadership
- Clearly defined quality roles and responsibilities
- Proactive prevention of quality defects
- Conformance to pre-developed standards
- Continuous quality process improvement

## 5 HSEQ Manual Sections

Centennial's HSEQ Manual incorporates various individual sections that govern the way that we do business in regards to protecting the health and safety of our employees and business partners, protecting the environment and our natural resources while maintaining the integrity of our work product.

Below are the individual sections along with applicable appendices associated with the HSEQ Manual:

1. Centennial integrated HSEQ Manual
2. Centennial management system
  - Appendix 1: HSEQ Policy at Centennial
3. HSEQ key performance indicators
  - Appendix 1: Customer Satisfaction survey
4. Employee participation and recognition
  - Appendix 1: HSEQ perception survey
5. Training, education, awareness and competence
6. HSEQ risk assessment and operations
  - Appendix 1: Activity Hazard Analysis
  - Appendix 2: Employee AHA
  - Appendix 3: Subcontractor pre-qualification worksheet
  - Appendix 4: Site safety rules
  - Appendix 5: HSEQ non-conformance form
  - Appendix 6: HSEQ Jobsite Binder Table of Contents
  - Appendix 7: Site safety rules Spanish
  - Appendix 8: Employee Field Operations AHA
  - Appendix 9: Letter of Designation
7. HSEQ inspection, surveillance and audit
  - Appendix 1: Safety inspection checklist
  - Appendix 2: Initial phase checklist
  - Appendix 3: Superintendent daily report
  - Appendix 4: Subcontractor daily report
  - Appendix 5: Sample audit report

- Appendix 6: HSEQ internal audit checklist
- Appendix 7: Safety walk record
- 8. Incident, Near Miss and Unsafe Condition Reporting and Investigation
  - Appendix 1: Incident investigation report
  - Appendix 2: Motor vehicle incident report
  - Appendix 3: Centennial incident reporting procedure
  - Appendix 4: Root cause analysis light
  - Appendix 5: Near Miss/Unsafe Condition Reporting Form
- 9. Work-related injury and illness recordkeeping
  - Appendix 1: OSHA 300 Log of Work-Related Injuries and Illnesses
  - Appendix 2: OSHA 300A Summary of Work-Related Injuries and Illnesses
- 10. HSEQ regulatory inspection
  - Appendix 1: Regulatory inspection process flow
  - Appendix 2: Regulatory inspection record
- 11. Personal protective equipment
  - Appendix 1: OSHA appendix D voluntary use of Respirators
  - Appendix 2: Hand protection selection matrix
- 12. Housekeeping, sanitation and environmental controls
- 13. Hazardous energy control
  - Appendix 1: Utility Shut-down Request Form
  - Appendix 2: Hazardous Energy Control Plan
- 14. Scaffolding and work platforms
  - Appendix 1: Scaffold/work platform erector and dismantler checklist
  - Appendix 2: Scaffold/work platform checklist
  - Appendix 3: Aerial lift inspection checklist
- 15. Protective barrier, warning signs and tags
- 16. Stairways and ladders
- 17. Hazard communication
  - Appendix 1: Hazardous chemical/material inventory log
- 18. Emergency response, evacuation and fire prevention
  - Appendix 1: Emergency action plan
  - Appendix 2: Emergency contact information posting
  - Appendix 3: Emergency response and evacuation checklist
- 19. Construction in healthcare facilities
  - Appendix 1: HPMO Pre-construction risk assessment
- 20. Fall protection
  - Appendix 1: Fall protection work plan
  - Appendix 2: Personal fall protection system inspection checklist
- 21. Confined space
  - Appendix 1: PRCS entry plan
  - Appendix 2: PRCS entry permit
  - Appendix 3: Continuous atmospheric monitoring log
  - Appendix 4: Confined Space Determination and Decision Flow Chart
- 22. Excavation and trenching
  - Appendix 1: Excavation and trenching plan
  - Appendix 2: Excavation and trench inspection checklist
  - Appendix 3: Excavation/trenching competent person evaluation checklist
- 23. Material handling equipment and operations
  - Appendix 1: Crane lift qualification and rigging plan
  - Appendix 2: Critical lift addendum
  - Appendix 3: Crane inspection checklist



- Appendix 4: Hydraulic lifting plan
- 24. Steel erection
  - Appendix 1: Steel erection plan
  - Appendix 2: Shake-out and unloading plan
- 25. Health hazards in construction
  - Appendix 1: Mold remediation plan
  - Appendix 2: Table 1: Specified Exposure Control Methods when working with materials containing Crystalline Silica
  - Appendix 3: Silica Task Specific Written Exposure Control Plan
- 26. Human factors and ergonomics
  - Appendix 1: Workstation ergonomic evaluation checklist
- 27. Motor Vehicle Safety
  - Appendix 1: Company Vehicle Policy Acknowledgement Form
- 28. Mechanized equipment, machinery and specialty vehicles
  - Appendix 1: Mobile equipment inspection checklist
- 29. Environmental
  - Appendix 1: Environmental Protection Plan Template
- 30. Quality Management
  - Appendix 1: Quality Control Plan
- 31. Electrical
  - Appendix 1: LOTO/ZVV 50-600 volt plan
  - Appendix 2: Energized electrical work permit flow chart
  - Appendix 3: Energized work job planning checklist
  - Appendix 4: Energized electrical work permit
- 32. Hand and power tools
- 33. Welding, Cutting, Brazing and Soldering
- 34. Tree Maintenance and Removal
  - Appendix 1: Tree Felling /Maintenance Plan
- 35. Demolition

## 6 Amendment history

Date	Version	Revised content
11.18.2013	1.0	Initial Preparation
01.01.2016	1.1	Update to paragraph 5 HSEQ Manual Sections
01.01.2018	2.0	Updates to Paragraph 1.3 Application (add joint venture partners), Paragraph 2 Superior Documents (add the Group Policy and Global Standards) and Paragraph 5 HSEQ Manual Sections (updates to sections 5, 6, 10 and 34)
10.01.2019	2.1	Updates to Paragraph 5 HSEQ Manual Sections
01.01.2020	2.2	Updates to Paragraph 2 Superior Documents and Paragraph 5 HSEQ Manual Sections (updates to subsection 5.8)

## 7 Appendix

There are no appendices to this section